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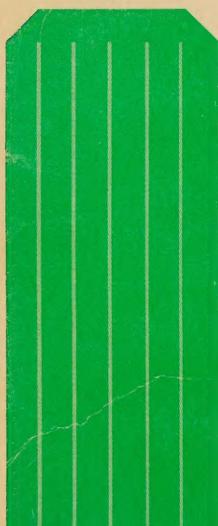
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The economic impact of immigration

Louis Parai



Can. Dept. of Manpower and Immigration

Canadian
immigration
and population
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[Green paper on immigration]

[Background study no. 8.1.]

The economic impact of immigration

Louis Parai



Manpower
and Immigration

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et Immigration



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ABSTRACT

The primary objective of this study is to analyse the economic effects of post-war international immigration into Canada. The detailed discussion is contained in Chapters 4 and 5, and a broad overview of the study is given in Chapter 1.

The economic effects of immigration are numerous, and the direction and magnitude of these effects often depend on the particular circumstances which prevail. Thus, for example, immigration may be inflationary or not, depending on whether or not immigration augments aggregate demand more or less than aggregate supply; the same forces determine the expansion of job opportunities and thereby affect the level of unemployment. Likewise, immigration may bring about increased income per capita if other inputs — particularly capital and new production technology — accompany immigrants, economies of scale are realized, or labour shortages and bottlenecks are remedied; but if, in contrast, the capital-labour ratio decreases and there are no economies of scale, per capita incomes may diminish. These changes in both the levels and composition of aggregate supply and demand change to some extent the relative prices of factors of production, goods and services; accordingly, the distribution of real incomes is altered.

In many instances the exact magnitude, and sometimes even the direction, of these economic effects could not be determined; nevertheless, it appears that in most instances the impact of immigration has been small and could have been either accomplished or offset by other available policy measures. The major effects of immigration appear to be two: immigration has augmented the labour force and made it more flexible and adaptable because immigrant workers often provide needed skills and training, and immigration has contributed to per capita incomes and economic growth through economies of scale and by its stimulus to increasing other inputs. However, domestic manpower policies and educational and training facilities can similarly contribute to greater flexibility within the labour force; nor is there consensus as to whether economies of scale exist to any significant extent in the Canadian economy, or to what extent immigration has encouraged the increase of other inputs.

PREFACE

Migration, like most other human activity, is a complex phenomenon. It has many aspects and effects — psychological, social, political, demographic and economic, to name but a few — and, accordingly, is studied from the perspective of numerous academic disciplines. Therefore, an analysis of migration made within the confines of any single discipline can provide only an incomplete understanding of the movements of people.

The economic effects of international immigration, and particularly of post-Second World War immigration into Canada, are analysed in this study. It has been undertaken to provide a major contribution to the Task Force on Canadian Immigration and Population and, hopefully, also to the subsequent public discussion of its Report. An effort has been made, accordingly, not to restrict this study to specialists; the use of technical terminology is minimized, highly theoretical analysis is avoided and detailed references, notes and tabulations are relegated to the end of each chapter and the appendix.

There are three objectives to this study: to review briefly the main findings of earlier research on the economic effects of immigration, to analyse in some detail the various effects that post-war international immigration into Canada has had upon the country's economy, and on the basis of these results, to indicate what major considerations are to be taken into account in determining future immigration into Canada. Since much less detailed data on emigration from Canada — and hence of net immigration into the country — are available, it has not always been possible to pursue completely all of the relevant issues. The most severe limitation, however, has been that this study had to be done within a period of two months. Consequently, there has been insufficient time to undertake extensive original research; often it was impossible either to compile or rigorously analyse new data, and some pertinent 1971 census data were not released or made available during this period and, therefore, could not be incorporated. In spite of these limitations, however, this study should increase our understanding of post-war immigration into Canada by integrating more closely the results of available theoretical and empirical research with the numerous unpublished analyses which have been completed recently within the Department of Manpower and Immigration.

In preparing a study, the researcher frequently receives considerable assistance from many others, and this is all the more obvious and necessary when tight schedules must be maintained. I should like to acknowledge and thank all who assisted me. The Task Force personnel were readily available to discuss the original outline, and to comment on the initial draft, of this study. Members of the Department of Manpower and Immigration provided necessary data and helpful suggestions and comments; the special studies on various subjects by members of the Research Projects Group and other consultants, as acknowledged in the

footnotes, supplied vital inputs into this study. In particular, Dr. Ed Ziegler and Mr. Martin Abrams provided not only the necessary co-ordination between my own research and that of others, but quickly produced useful suggestions and comments on the first draft. Three research assistants, Bob Bailey, Bob Richards and Ken Sumnall, spent numerous hours preparing the necessary tabulations. Florence Scott and Penelope Torra very efficiently typed the often illegible manuscript and long tables into their final form. Last, but not least, my family has been most helpful and co-operative in enabling me to do much of the research and writing during the evenings, weekends and holidays. Errors of commission and omission — and of the latter I am much aware — remain my own responsibility, of course.

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ALTERNATIVE ROLES FOR IMMIGRATION

The purpose of this chapter is to provide a broad overview of this study. A brief summary of the conclusions of the analysis is given, and the alternative roles which immigration could be expected to play in the economy are considered.

THE IMPACT OF POST-WAR IMMIGRATION INTO CANADA

Some of the effects of immigration can be fairly easily observed and quantified. For example, immigration has contributed significantly to post-war Canadian population growth. During the period 1946-71, 3.5 million immigrants were recorded as having come to Canada; emigration is estimated to have been 1.5 million, so that estimated net immigration was 2.0 million. The population of Canada increased over this period by 9.2 million to a total of 21.7 million at the end of 1971. Consequently, 22 per cent of the post-war increase in population resulted directly from net immigration, and the remainder from natural increase (that is, the excess of births over deaths). And because immigrants tend to be more concentrated among the working age groups, net immigration contributed even more to the growth of the labour force.

Many of the economic effects of immigration, however, could not be indicated precisely, nor could most of them be generally measured; nevertheless, it appears that in most instances the economic effects of the post-war immigration into Canada have not been immense. It is of particular interest to ascertain the extent to which immigration contributes to the achievement of those economic goals or objectives — economic growth, price stability, full employment, a viable balance of payments and an equitable distribution of income — that are outlined in the following chapter — which are widely accepted within our society.

Of all these economic objectives, that of economic growth remains the most pertinent to immigration. The major economic justification for immigration over the years has been that additional inputs will result in more output, and that the increased size of the population and work force would result in economies of scale — that is, proportionately larger increases in outputs than in inputs — and thereby increased per capita incomes for both immigrants and the indigenous population. Yet the theoretical and empirical support for this position is not unambiguous. Economic growth, defined in terms of increasing per capita income, can come from improved technology and increased capital and education per worker, and not just from economies of scale; moreover, economies of scale depend on larger markets and not simply greater population so that (except for non-tradable goods and services) international trade may be an alternative means to attain economies of scale. And equally important, increasing concern in recent years about pollution, urban congestion, and the conservation of non-renewable resources, clearly questions the desirability of larger population and growth measured simply in terms of increased per capita income; but these problems are not simply functions of population size alone, and appropriate measures can be implemented to remedy them. Of critical importance is the empirical question of whether or not there are

economies of scale; the available evidence does not provide a definite answer. It is probably that, especially for a population as small as Canada's, economies of scale do exist; alternatively, it is possible that constant returns to scale prevail, which would mean that immigration does not augment output per worker through its contribution to a larger market and labour force. But even in this latter instance, however, immigration could still contribute to increased output per worker and economic growth by encouraging greater investment, providing entrepreneurial talents, and helping to provide a more flexible and viable labour force.

The net impact which immigration has had on the Canadian balance of payments is not clear, but it could not have been significant. More important, a flexible exchange rate is an alternative means of achieving a viable balance of payments. Accordingly, the impact of immigration into Canada on the country's balance of payments cannot be taken as an argument for or against immigration in general, or immigration of a particular composition.

Similarly, the impact of immigration on the Canadian price level is far from clear. Being an open economy, Canada is strongly affected by the rates of inflation abroad. Furthermore, large annual immigration during the post-war years has generally occurred during periods of economic expansion when upward pressures existed on the price level, and it is not possible to distinguish clearly what impact immigration has had on the rate of inflation. To the extent that immigration may have increased aggregate demand more than supply, it would have added to inflationary pressures; but to the extent that immigration helped reduce acute labour shortages in particular occupations and industries, it would have tended to reduce the upward pressures on wages and prices. Whatever the net effect may have been, it likely has been small in relation to the other inflationary pressures; and more important, other counter-inflationary policies are more appropriate to combat inflation. Nevertheless, it is in this respect that immigration can play a useful role. By being able to provide rather quickly and relatively easily particular categories of workers to help overcome labour shortages, immigration policy can be a vital component of manpower policies; indeed, this seems to have been clearly understood and accepted as is evidenced by the creation some years ago of the present Department of Manpower and Immigration.

Similar considerations apply to the effect of immigration on the goal of full employment. Given that a "trade-off" exists between price increases and unemployment — that is, higher rates of inflation generally occur with lower rates of unemployment, and conversely — if immigration is viewed as having reduced inflation slightly, then it is to be expected that immigration likewise has increased unemployment. Recent studies suggest this to be the case. These studies, using macroeconomic models of the Canadian economy, have indicated that immigration probably has slightly increased the rates of unemployment; if this is indeed true, then presumably such slightly higher unemployment may be offset by appropriate monetary and fiscal policies. But the evidence is not altogether convincing. The models that provide these results do not take into account the effects of changes in the occupational composition of the labour force, yet there is evidence which suggests that unemployment may exist at times partly because of "bottlenecks" or labour shortages in certain occupations or regions. By reducing these shortages, immigration can help to decrease unemployment; accordingly, viewed as part of manpower policies, immigration policy can be regarded as helping to combat

unemployment — and also inflation at the same time, insofar as manpower policies can *shift* the “trade-off” curve downward. Furthermore, immigration generally responds to economic opportunities, and immigration policy also attempts to discourage immigrants from coming when the rate of unemployment is increasing or high. It is not possible with our present knowledge to indicate what is the net impact of immigration on unemployment.

Both international and internal migration have generally tended to go to those areas of Canada offering the greatest economic opportunities, but likely international immigration has been a partial substitute for internal migration. That is, by helping to meet the growing labour demands in the expanding regions, international migration has likely helped to prevent larger regional differences in per capita incomes from occurring and to fill employment opportunities in particular occupations and industries, and thereby has reduced the incentives among the indigenous population to move within the country. However, in the absence of international immigration and with regional per capita income differences sufficiently large to provide the necessary economic incentives to move, internal migration presumably would have largely brought about the urbanization that has taken place and which is characteristic of industrial countries; in this instance, of course, those of the indigenous population who now would have migrated would be receiving higher earnings than if they had remained. Consequently, since existing Canadian manpower policies provide mobility grants in part to encourage the internal redistribution of labour and international immigration also provides labour to the expanding regions, immigration policy serves as a supplement to these manpower policies.¹ Moreover, insofar as international immigration has helped to prevent larger regional differences in per capita incomes from occurring, international immigration has contributed to the goal of greater regional equality of per capita incomes; but insofar as these immigrants have also contributed to the expansion of growing regions, they have likewise contributed to the existing disparities in regional growth and aggregate wealth, as well as to urban congestion. And as already noted, immigration affects the distribution of income among various groups in society. Since immigration generally increases the relative supplies of some forms of labour, and may alter the ratio of labour to capital, relative wages and other factor prices are altered; those possessing more of these factors whose prices decline would thereby be made relatively worse off. Such redistribution of income can be altered by appropriate taxes and transfer payments, and thus the effects of immigration on income distribution cannot be considered as an important effect.

ALTERNATIVE ROLES FOR IMMIGRATION

Within an economic framework, immigration is not a goal, but rather a possible means of pursuing those economic objectives which are generally accepted within our society. And in view of the above discussion, together with the evidence to be given in considerable detail in this study, there appear to be two major functions which immigration can most readily perform: to contribute to a larger work force and domestic market — thereby enabling possible economies of scale to be realized — and to serve as one aspect of manpower policy — thereby helping to provide a more flexible and adaptable labour force which can lead to greater efficiency in the allocation of resources and to economic growth. Nevertheless, it remains true that alternative options exist to accomplish these same results.

Economies of scale essentially require a larger market rather than just a larger population, and this increased market can also be achieved through international trade. There are continuing efforts throughout the world to lower tariffs, for example, and the Common Market has been formed in Europe. But tariffs still protect various sectors of the Canadian economy, particularly manufacturing industries, and there is little evidence that this will be significantly altered in the foreseeable future. Increased population could also be achieved, of course, through natural increase. But, as will be noted, natural increase has diminished in recent years and there is no reason to expect that the previous higher rates will be resumed. Therefore, international immigration provides a readily available means of increasing the size of the Canadian population and markets.

Similarly, the existing labour force can be adapted to changing demand conditions by providing suitable training for new entrants to the labour force, by retraining workers, and by moving workers from one area or industry to another. Indeed, existing manpower policies attempt to do these things. But immigration can often be a quicker and less expensive means of responding to changing requirements than either retraining or internal migration. Thus international immigration should be regarded as a complement to — rather than just a substitute for — these other existing manpower policies. This is not to deny that international immigration — or for that matter, other manpower policies as well — will affect the pattern of relative wages, and this is desirable if it reduces the effective barriers among the sectors of the labour market.² There still remains, of course, an important question of distribution; should job opportunities, which have become more difficult to fill and thereby are relatively more remunerative, be made available to immigrants because it is less costly or requires less time for society to do so, or should an indigenous worker be retrained or encouraged to move?

SOME IMPLICATIONS FOR IMMIGRATION POLICY

These two major roles that immigration can perform have somewhat different implications for policy. Growth of the population and the labour force implies a more long-term view, whereas that of meeting the changing requirements of the labour market is, by definition, much more short-term oriented.

It is most difficult — if not impossible, given our existing tools of analysis and state of empirical knowledge — to specify precisely what ought to be the long-term immigration target. Specifying such a target requires setting out the optimum population and absorptive capacity which, as will be noted, are dynamic concepts that depend on such things as the stock and growth of capital and technological knowledge; but our knowledge of what precisely determines such growth is incomplete, and we are unable to anticipate the future course of events. A more modest approach can be taken if it is accepted that higher economic growth rates can always be attained, but at some additional costs to society. Presumably the past rates of growth of per capita incomes can be maintained if the past rates of increase in inputs — and the accompanying increased efficiencies — are maintained; in terms of labour force growth, the lower rate of natural increase and likely trends in increased participation rates imply a dependence on immigration that is comparable to that during the 1950s rather than the last decade. As already noted, the actual impact of past immigration often could neither be described precisely nor measured; the available evidence has suggested that these economic effects cannot be considered as having been very large. It would appear, therefore, that levels of

immigration comparable to that over the past decades would not involve disruptive effects on the economy provided, of course, that the immigrant workers were not of an occupational mix so much different from that already existing in the economy so as to disrupt the labour market. But whether or not a larger immigration inflow is desirable depends on how society wishes to pursue the objective of economic growth, and on the mix of other economic objectives which is deemed to be most desirable.

In terms of the short-run objective of immigration, the use of immigration policy as a component of manpower policy seems to be accepted, and changes in immigration regulations during the past decade indicate a desire for greater flexibility in being able to use immigrant workers to meet the short-term requirements of the labour market. Thus regulations were introduced in 1967 which adopted a unit assessment scheme that predominantly stresses economic and socio-economic factors considered to be significant in selecting desirable workers and which could be altered over time to reflect the changing needs of the economy. Presently this scheme (based on a maximum of 100 units) continues to emphasize the need for highly educated, trained and skilled workers (providing up to 30 units) who are of prime working ages (maximum 10 units), have arranged employment (10 units) and who would fill particular occupational shortages (maximum 15 units) or go to areas of general labour shortages (maximum 5 units); however, because the minimum number of points that is required for admission is different for independent and nominated immigrants (50 for the former and between 20 and 35, depending on the family relationship, for the latter), the occupational composition of these two streams of migrants are not the same. More recently, it is possible for non-immigrants to be admitted into the Canadian labour force for a limited time on a temporary work permit. However, caution must be exercised in using temporary work permits lest these workers become, *defacto*, permanent immigrants who may thereby give rise to particular problems; the guest workers in certain European countries illustrate the possible difficulties. The mechanism exists, therefore, to admit workers from abroad to meet the needs of the domestic labour force.

In summary, the analysis of the economic effects of immigration indicates certain considerations that must be kept in mind in formulating immigration policy; but these economic effects cannot be precisely specified and quantified and hence the suggested considerations must be considered with this in mind. The main economic justifications for immigration are the benefits to growth which immigration may likely provide through the probable resulting economies of scale, and the contributions which follow when immigrant workers reduce labour shortages. If these objectives are to be pursued through immigration policy, then regulations are required which provide for a continuous, but compositionally changing, stream of immigrants. As long as the Canadian standard of living and social environment remains attractive, the potential supplies of immigrants will be available; their admission can be regulated so that these economic objectives can be served.

OUTLINE OF STUDY

The remainder of this study, which essentially elaborates on the above discussion, is divided into six chapters. The general framework within which this

study is made is set out in Chapter 2. As perspective for the analysis of the Canadian situation, in the following chapter the economic determinants of migration are first briefly summarized, and the economic effects of immigration are thereafter analysed; both theoretical and empirical studies are discussed, although basically only empirical work describing non-Canadian situations are included in this section.

The magnitude and major characteristics of post-war immigration into Canada, together with the available information on emigration from Canada, are briefly outlined in Chapter 4. This is to provide the necessary background for Chapter 5, the major section of the study, in which many of the economic effects of post-war immigration into Canada are studied in considerable detail. For those interested only in the study of the Canadian case, a reading of Chapters 4 and 5 will provide the basic information. In Chapter 6, some basic considerations in determining future immigration into Canada are briefly set out. And finally, the main results and conclusions — together with the necessary qualifications — are briefly summarized in Chapter 7.

FOOTNOTES

¹ Although the trade-off between unemployment and inflation has already been mentioned, it should be kept in mind that other economic objectives also can conflict.

There is clearly a conflict between regional equality and growth. Incentives in the form of grants and subsidies may be provided to the less developed and slower growing regions in order to induce firms to locate there. But this may be a less optimal allocation of resources and output will thereby be smaller than what it would have been otherwise, and thus economic growth will be reduced. Likewise the size and growth of the expanding regions would be curtailed by restricting international immigrants from going to those areas.

² For example, the large distances — and thereby the costs of moving — between regions of the country provide effective barriers between regional labour markets. Immigrants could fill existing shortages and thereby reduce the wage differential among the regions.

Nor should this be confused with a possible alternative situation where relatively large numbers of immigrant workers arrive into a particular labour market and depress wages; this would be evidenced by a constant movement of workers out of such a market into other relatively better paying alternative jobs.

GENERAL FRAMEWORK OF ANALYSIS

The growth of world population and its economic and ecological implications have become of increasing concern in recent years.¹ Within a number of industrialized countries, similar concern has been expressed about national population size and, in some instances, the appropriate immigration policy that should be adopted. For example, in the United States a special Commission has recently completed its report,² in Australia a National Population Inquiry is currently in progress which is to report on, among other things, desired population size and the role of immigration,³ and in New Zealand a study was made some years ago of the economic impact of increased immigration.⁴

CANADIAN POPULATION GROWTH AND IMMIGRATION

As noted in the previous chapter, net immigration accounted for 22 per cent of the post-war increase in population. The rate of natural increase has been diminishing in recent years, and thus in the future (net) immigration could assume an even greater role in population growth.

The crude birth rate — defined as the number of births per thousand of population — has been declining over the past decade, and can be expected to stabilize. Although it will likely rise temporarily, there is no evidence to suggest that in the long run the downward trend will be reversed. This is because the average number of children that a woman has during her lifetime is now less than two, which means that without net immigration total population would eventually diminish when births are exceeded by deaths; this will not occur during the next three or four decades, however, since the "baby boom" following the Second World War has resulted in a relatively large proportion of women being currently in the child-bearing ages. Why the birth rate has decreased is really not understood at the present, and perhaps it may again increase; nevertheless, on the basis of current knowledge, it appears that any substantial population growth can only come through net immigration. The population of Canada can thus be regulated rather readily and its size determined as a policy objective. But what should be the population of Canada and, thereby, what should be the country's immigration policy?

THE ECONOMIC ANALYSIS OF POPULATION

Analysing the economic impact of population size and growth is an integral part of an assessment of alternative population objectives. However, not all of the economic effects of population are understood, even though considerable study has been devoted to the subject.⁵ Early 19th century economists generally considered that population grew in response to wages which had increased above the level required for subsistence, that these wages would decrease as the population (and thereby the number of workers) increased relative to the available resources, and that ultimately wages would be reduced to subsistence level at which point

starvation and pestilence would halt population growth; it was this prognosis which prompted some to refer to economics as the "dismal science". But these dire consequences did not materialize in Europe and America. The industrial revolution and subsequent technological advances permitted both population growth and increasing incomes to occur in the industrial nations; birth rates also decreased substantially, especially during the interwar years, in many countries. Population increase became to be regarded as a possible means of economic growth. In sparsely populated countries wishing to industrialize, both the size of the domestic market and the ratio of labour to available resources were considered to be too small to attain efficient large-scale production. Thus a larger population was regarded as necessary to achieve higher per capita incomes, and the concept of an optimum population was advanced. In populated industrial countries, where the great depression was regarded as having been caused by inadequate demand for their economies' output, population growth was regarded as a stimulus to demand and thus as a means to achieve full employment and economic growth. But in more recent years, however, both large populations and growth *per se* are no longer considered to be unmixed blessings. Large and rapidly growing populations in the less developed countries of the world are regarded as barriers to economic development and higher standards of living. And even in the industrial countries, rapid economic expansion and growing populations have increased both the amount of pollution and the rates at which nonrenewable resources are being depleted.

Accordingly, even a very cursory review of the economic analysis of population clearly indicates that a simple generalization of the economic effects of population is not possible. The particular circumstances confronting a nation, together with the goals that are being pursued, must be taken into account.

THE ECONOMIC ANALYSIS OF MIGRATION

Since immigration is one of the means by which a nation's population is augmented, the economic analysis of immigration is, in one respect, the analysis of the economic effects of population. The concept of optimum population, for instance, often has been justification for encouraging immigration.⁶ In Canada, for example, it was enunciated shortly after the Second World War by the Right Honourable W. L. Mackenzie King, Prime Minister at that time, that

The policy of the government is to foster the growth of the population of Canada by the encouragement of immigration...

...A larger population will help to develop our resources. By providing a larger number of consumers, in other words a larger domestic market, it will reduce the present dependence of Canada on the export of primary products.⁷

And more recently, this same concept was set forth in greater detail in the *White Paper on Immigration*:

A bigger population means increased domestic markets for our industries. A larger home market permits manufacturing firms to undertake longer, lower-cost production runs, and it broadens the range of industry we can undertake economically; for both these reasons, population increase in turn improves our competitive position in world markets. A bigger population also yields lower per capita costs of government, transportation and communications, and stimulates the development of more

specialized services. These are the very important economic reasons why immigration tends to increase the real income per person available to all Canadians.⁸

Such additions to population through immigration were to be carefully regulated:

The essential thing is that immigrants be selected with care, and that their numbers be adjusted to the absorptive capacity of the country....

The figure that represents our absorptive capacity will clearly vary from year to year in response to economic conditions.⁹

The Government's view is that it is in Canada's interest to accept, and if need be to encourage, the entry to this country each year of as many immigrants as can be readily absorbed. Subject to this limitation, we should accept or seek out people who have the capability to adapt themselves successfully to Canadian economic and social conditions.¹⁰

Population growth resulting from immigration, however, is qualitatively different from that resulting from natural increase and, accordingly, the economic analysis of the effects of immigration has embraced more than just the study of population change. Thus, for example, immigrants are often predominantly of working age and have varying amounts of education and occupational training; they frequently bring some capital funds with them and also subsequently make remittances to relatives and friends living abroad; they have immediate need upon arrival for working facilities and tools, housing, commodities and services which are typically required by working adults and young families. Not surprisingly, the analysis of the economic impact of immigration has traditionally focused largely upon the effects which these specific characteristics of immigrants have had upon the major sectors of the economy. Extensive study has also been made of the direction and magnitude of migration flows.

As will be reviewed in more detail in the following chapter, previous research has analysed the impact of immigration on both the productive capacity of the economy and the resulting composition of output. Considerable attention has been given to the occupations of immigrants, the extent to which they have augmented the labour force, and, in more recent years, to the value of education and training — that is, the "human capital" — which is embodied in these migrants; the extent to which investment in capital equipment occurs along with immigration has also been emphasized, since output per worker (and, consequently, growth in per capita incomes) is partly determined by the capital-labour ratio, that is, the amount of capital available per worker. The expenditure patterns of immigrants have been analysed and compared with that of the indigenous population to ascertain the impact of immigrants on both total output and its composition. The resulting changes in output capacity and demand, in turn, have effects on economic growth, the rates of inflation and unemployment, the distribution of income among regions and groups of individuals, and also on the relative prices of goods and services; these effects are frequently very difficult both to trace through and to measure and, accordingly, there is no consensus as to the economic impact of immigration.

The lack of consensus as to the economic impact of immigration is but one major problem in an assessment of immigration. Another difficulty exists because these various economic effects of immigration may be judged to be of varying desirability by different segments of the nation. For example, if immigration (during a particular period or into a certain region) essentially was found to increase significantly the number of restaurants serving European cuisine, decrease the level of unemployment and increase the rate of inflation, would such immigration be assessed to be beneficial and desirable? This problem actually embraces two elements: determining which economic effects are relevant criteria or objectives, and ranking the relative desirability of such criteria.

Increased efficiency in allocating the economy's scarce resources has traditionally been the objective and the principal criterion of economists in assessing alternative options. Additional objectives, however, frequently have been adopted; many industrial countries would likely accept the following goals and within Canada, in particular, these objectives now seem to be widely accepted:¹¹

- \relatively high and stable rate of growth;
- high level of employment;
- reasonable price stability;
- an equitable distribution of rising incomes;
- a viable balance of payments.

And more recently, conservation of the environment and viable population densities are increasingly considered as important objectives. Within this study, an effort is made to indicate the likely ways in which immigration affects these plausible economic objectives. But to be able to do so, some further clarifications must be made.

In specifying economic growth as an objective, typically it is (gross) national income (or output) that is considered. But it is necessary to indicate whether it is *total* or *per capita* (or alternatively *per worker*) income which is to be considered; clearly it is possible for total income to increase while per capita income remains unchanged or even decreases. If it is held that national strength is of paramount importance, then total income is the relevant concept. In all other instances, per capita income seems to be the more appropriate and, accordingly, will be used in this study.

It is also important to specify to which group of individuals these goals should be applied. Some advocate taking an international view and argue that world population and income are relevant, whereas others accept the existence of nation-states and adopt national boundaries as demarcating the appropriate unit of concern.¹² The latter view is adopted in this study. But it must further be specified which group within the nation is to be the reference group. Since the indigenous population — that is, those persons residing in the nation prior to the arrival of those immigrants whose arrival is being analysed — presumably shall determine whether or not such immigration will occur, it is the effects on the indigenous population which is of interest, and hence, they constitute the primary reference group. However, wide disparities between the indigenous population and immigrants may

give rise to problems; thus some attention must also be given to the economic experience of the immigrants themselves.

As illustrated in the earlier example, it may happen in some instances that immigration has a positive effect on one objective and a negative effect on another. What economic assessment is to be made of such immigration? Only if the relative desirability of alternative objectives are specified can such an assessment be made. Thus, for example, whether there is a greater or smaller number of restaurants serving European cuisine is not judged to be particularly relevant in an economic assessment; *if* the amount of increased employment among the indigenous population is judged to outweigh the increased level of inflation, then this immigration will be assessed to be economically beneficial and therefore desirable.¹³ Economists can be of some assistance in ranking the relative desirability of alternative objectives insofar as they may be able to indicate the magnitudes of the relevant costs and benefits which are incurred; economists may, for example, be able to point out the various impacts that will arise from increased employment and inflation. In some instances, it may be possible by appropriate government policy actions to offset the undesirable effects; in other instances, however, since some individuals will gain whereas others will lose, and with there being no objective way to compare these actual gains and losses of different individuals, a value judgment ultimately will have to be made in the assessment.

Likewise, it may be interjected quite rightly that there are also non-economic goals and criteria which must be taken into account. Here again a value judgment is clearly required to rank or specify the relative desirability of all the objectives of society.

Thus, quite obviously economics by itself cannot indicate the proper population or immigration policies. This is partly because there is no general consensus as to the impact of immigration; knowledge is still incomplete, and much depends on the particular circumstances in which immigration and population change occur. Moreover, value judgments must be made in ranking those criteria according to which alternative policies are to be assessed.

FOOTNOTES

¹ See, for example, D. L. Meadows, et al., *The Limits to Growth*, A Report for the Club of Rome's Project on the Predicament of Mankind (New York: Universe Books, 1972).

² The Commission on Population Growth and the American Future, *Final Report: Population and the American Future* (Washington: U.S. Government Printing Office, 1972).

³ See, for example, Australian Institute of Political Science, *How Many Australians? Immigration and Growth* (Sydney: Angus and Robertson, 1971), pp. 15-22, and Australia, Department of Immigration, *News Release*, "Australia's Human Resources", an address by the Hon. A. J. Grassby, M.H.R., to the Australian and New Zealand Association for the Advancement of Science, August 15, 1973, pp. 8ff.

⁴ New Zealand Monetary and Economic Council, *Increased Immigration and the New Zealand Economy* (Wellington: Government Printer, November 1966).

⁵ For an excellent comprehensive review of the earlier studies, see the United Nations, Department of Social Affairs, Population Division, *The Determinants and Consequences of Population Trends* (New York: United Nations, 1953); for a more recent analysis, see E. R. Morss and R. H. Reed (eds.), *Economic Aspects of Population Change*, vol. 2, Research Papers of the Commission on Population Growth and the American Future (Washington: U.S. Government Printing Office, 1972).

⁶ See, for example, Mabel Timlin, *Does Canada Need More People?* (Toronto: Oxford University Press, 1951).

⁷ Canada, *House of Commons Debates*, 1947, vol. 3, pp. 2644-45.

⁸ Canada, Department of Manpower and Immigration, *White Paper on Immigration* (Ottawa: Queen's Printer, 1966), p. 8.

⁹ Canada, *House of Commons Debates*, 1947, vol. 3, pp. 2645-46.

¹⁰ *White Paper on Immigration*, p. 5.

¹¹ See, in particular, Economic Council of Canada, *First Annual Review: Economic Goals for Canada to 1970* (Ottawa: Queen's Printer, 1964), especially chaps. 2 and 9, and *Ninth Annual Review: The Years to 1980* (Ottawa: Queen's Printer, 1972), chap. 6.

¹² For more detailed presentations of these views, see W. Adams (ed.), *The Brain Drain* (New York: MacMillan Co., 1968), especially the chapters by H. G. Johnson and D. Patinkin, and also the numerous writings of H. G. Johnson, H. G. Grubel, A. D. Scott and B. Thomas, which are most conveniently presented in M. Blaug (ed.), *Economics of Education: 2 Selected Readings* (Harmondsworth, England: Penguin Books Ltd., 1969).

¹³ And conversely, of course, if the negative impact of increased inflation is judged to outweigh the positive impact of increased employment, then the immigration will be assessed not to be economically beneficial nor desirable.

THE ECONOMIC ANALYSIS OF IMMIGRATION

The purpose of this chapter is to survey the theoretical and empirical research on the economics of international immigration, summarize the main results, and thereby provide the analytical framework within which the economic impact of post-war immigration into Canada can be analysed in Chapter 5.

THE ECONOMIC ANALYSIS OF MIGRATION

The economic analysis of immigration focuses on two major questions:

- (1) Why does immigration occur, or more specifically, what determines the direction, magnitude and timing of immigration streams?
- (2) What are the economic effects of immigration?

These two questions are most frequently analysed independently, even though they are clearly related; not only does the flow of immigrants respond to various economic elements, but these in turn are affected by the volume and rate of immigration.

THE DETERMINANTS OF INTERNATIONAL IMMIGRATION FLOWS

International migration that is freely or voluntarily undertaken is regarded in economic analysis as the movement of labour from a country where labour productivity (and hence the level of wages) is low to another where it is higher. This reallocation of labour enables these migrant workers to produce more in their new location than they were able to produce previously; total output within the two countries involved has increased and the situation is regarded as having improved. Moreover, in the absence of other counteracting forces, the reallocation of labour reduces the existing international differences in labour productivity and thereby diminishes the incentive for workers to migrate; in these circumstances, immigration is self-eliminating. It is much more likely, however, that various forces exist — such as more rapid capital accumulation in the country of immigration or greater population growth in the country of emigration,¹ for example — which will permit immigration to continue indefinitely.²

Further understanding of the determinants of immigration may be obtained by analysing the decision to migrate from the point of view of the individual worker who is assumed (by the economist) to be trying to maximize the well being of himself and his family. In formal terms, a human capital approach can be taken.³ Migration is an investment that increases the productivity of the person and, accordingly, migration would take place whenever there is a positive return from migrating. That is, a worker will wish to migrate when he perceives that the present value of the increase in real income that he expects to receive abroad is greater than the costs of moving.⁴ Numerous conclusions about both the magnitude and

composition of immigration and its cyclical fluctuations may be derived from this formulation.

Since the anticipated increase in real income would depend on expected present and future earnings, migration would occur from countries with low wages to those with higher ones, and the magnitude of migration can be expected to increase as the wage differential between countries becomes larger. Moreover, as the number of immigrants who had originated from any given region increases within the country of immigration, these new residents would likely provide information to friends and relatives still living abroad and would perhaps also help them get established if they were to migrate; this would decrease the real costs of migrating and would thereby increase immigration. Furthermore, younger workers over their lifetime would expect their real incomes to increase more than would older workers and, therefore, younger workers would be more likely to migrate. Costs of moving would be less for unmarried people and those with small families, and hence they would be more likely to become migrants. Of course, not everyone would have the same expectations, nor would everyone be equally affected by the existing differentials among the various elements of expected incomes and costs; consequently, not everyone would wish to migrate at any one particular time. But certain changes may induce more people to migrate during one period as compared to another. Climatic conditions affect the real costs of moving, for example, and a seasonal pattern of migration may be anticipated. Cyclical fluctuations in economic activity similarly would affect the flow of migrants. As economic conditions cyclically improved abroad, for instance, the prevailing higher wages would lead to higher expected increases in incomes, and the existing lower unemployment rates would reduce the anticipated time that would likely be required by the migrant to find a job; thus immigration can be expected to be greater when there is economic expansion in the immigrant receiving country.⁵ And finally, it should be noted that these conclusions are made on the assumption that intended migration can, in fact, be realized. Without exception, however, countries now have immigration policies or regulations — and some countries also control the emigration of their residents — so that immigration in recent decades has been the result of both the autonomous decisions of migrants and the regulations, controls and inducements to which they have been subject.

General observation and numerous empirical studies have confirmed many of these results.⁶ International migration is typically from countries with low incomes to those with higher incomes; however, migration from the very poor countries has tended to be relatively small since it is frequently subject to the restrictive regulations of the immigrant receiving countries. It is likewise observed that migrants are frequently younger workers who are either single or have small families. It has been found that the number of immigrants arriving in a country varies inversely with that country's rate of unemployment; this is especially so when unemployment rates six to 12 months earlier are considered, this time period being the average lag between the time when decisions to migrate are made and when they are finally realized. Immigration also varies directly with increases in the average real national income (or wage) differential that exists between the countries of origin and destination. Immigration is seasonally smaller during the winter months. Although not a great deal of data exist on changes in actual transportation costs, one study has indicated that immigration tends to increase as these transportation costs decrease. Available data have also indicated that immigration

movements respond to changes in immigration policies and regulations.

And finally, it should be noted that the migration of professional and highly trained workers — often referred to as the “brain drain” — has especially received considerable attention in recent years.⁷ Such migration, readily amenable to the human capital analysis described above, basically can be explained as occurring in response to higher wages and better job opportunities. Since many professional and highly trained workers, as well as top managers and executives, very likely consider that the market place in which they operate extends beyond national boundaries, they are relatively more mobile than other workers and hence in recent years they represent a rapidly growing segment of international migration. Much of the discussion of this “brain drain” has been more concerned with the effects of this migration, especially on the country of emigration.

THE ECONOMIC IMPACT OF IMMIGRATION

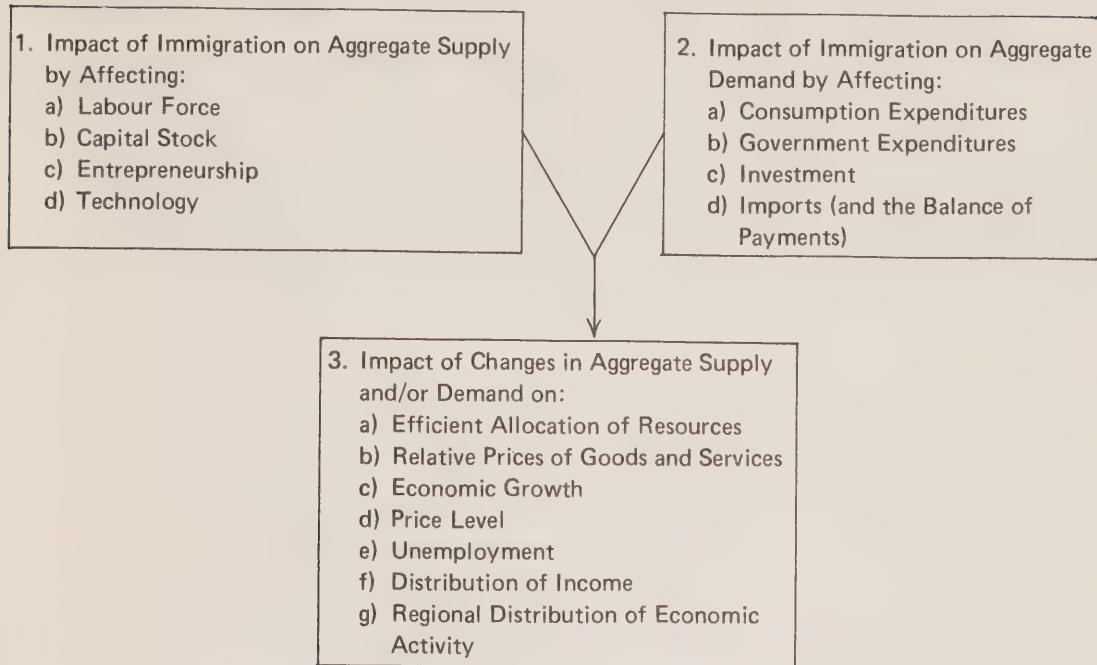
The economic effects of immigration, as indicated in the previous chapter, are numerous and often complex. Some of these effects may occur soon after the immigrants arrive, while others take considerable time to manifest themselves; similarly, immigration affects some aspects of the economy directly, and others indirectly through a sequence of relationships. Therefore, not surprisingly, it is often difficult to indicate precisely what are the various economic effects of a specific flow of immigration, and extremely difficult to measure them.

These various economic effects of immigration may best be summarized in a simple chart as shown in Chart 3.1. Immigration affects both the productive capacity (or in more formal terminology, the aggregate supply) of the economy and the demands made upon this capacity (that is, the aggregate demand); through the interaction of aggregate supply and demand, there are further effects on a number of important economic elements.⁸

As summarized in Chart 3.1, immigrants will increase aggregate supply directly by augmenting the labour force, and perhaps also by bringing in capital resources, entrepreneurship and new technology. Immigrants will increase aggregate demand directly through their own expenditures on goods and services; moreover, in response to the increased population and labour force, additional expenditures very likely will be made by government, by business enterprises to provide additional working facilities and equipment and, because of all these additional expenditures, there will be need for more imported goods and services. This increased economic activity, in turn, may affect both the efficiency with which resources are allocated and the relative prices of goods, services and factors of production, with the price changes of the latter most directly affecting the distribution of real income. Furthermore, depending on whether aggregate demand increases more or less than aggregate supply, there will be pressures on the price level to rise or fall, and for unemployment to decrease or increase. All of this could affect the rate of economic growth and alter the regional distribution of economic activity.

Much of the analysis of the impact of immigration on the components of aggregate supply and demand has been largely descriptive; the observed changes that are brought about by the immigrants are recorded and described. In contrast, the study of the indirect effects that result from these changes in aggregate supply

CHART 3.1
SCHEMATIC RESUMÉ OF THE ECONOMIC IMPACT OF IMMIGRATION



and demand has been more analytical by necessity; some underlying economic theory is required to provide the connecting links through which the initial impact of immigration can be traced. However, whenever the relevant economic theory is not fully developed — as is most obvious, for example, in attempting to analyse growth — the effects of immigration can be ascertained only very inadequately. There are two basic approaches that may be taken to analyse these indirect effects. On the one hand, the likely sequence of links between a change in aggregate supply (or demand) and the end result (say, for example, economic growth) that is of particular interest may be traced out independently of other possible interacting influences; described as partial equilibrium analysis, this approach is the easier to take, but also the more unsatisfactory since it cannot, by its very nature, encompass the various other relevant influences. On the other hand, a general approach, whereby all relevant interacting forces are taken into account, may be developed; the appropriate model of the economy that is required by this approach may be very complex, however, and in the final analysis the derived results may often be critically dependent on the specific construct of the model.

In the remainder of this section, the effects of immigration on each of the components of aggregate supply and demand will be reviewed in some detail, and thereafter the likely impact of these changes on the economic performance and measures noted in Chart 3.1 will be discussed.

Labour Force

International migration is one of the major – and undoubtedly the quickest – means of altering the size and composition of a country's population and labour force. Much has been written on the impact of immigration on the recipient country.⁹ The relevant characteristics of the migrants – their sex, ages, participation rates, and especially occupational distribution – typically are tabulated and described, and then compared to the domestic labour force to ascertain the contribution which these new workers have made to the total labour force and its growth over a given period of time. Further analysis is often made of the actual distribution of these migrant workers within the country to see whether they have likely relieved labour shortages or contributed further to labour surpluses.

Capital

Unless the inflow of immigrant workers is accompanied either by capital from abroad or increased domestic investment, an immediate effect of immigration may be to decrease the capital to labour ratio.¹⁰ Accordingly, some study has been made of the extent to which foreign capital inflows occur along with immigration.

Immigrants often bring some funds with them, but the amounts that are generally involved are much less than that required to equip them with the necessary social and productive capital. More significantly, it has been found that immigration to North America during the last century was accompanied by large autonomous capital inflows which, like labour, moved in response to more remunerative opportunities.¹⁰ But in more recent years, it is unlikely that foreign capital inflows into Israel or Australia fully provided the required additional capital generated by immigration to these countries.¹¹ The increasing proportion of skilled, highly trained and professional workers among immigrants during the past decade also represents, of course, a substantial transfer of human capital.

Entrepreneurship and Technology

No adequate explanation exists of the determinants of either entrepreneurship – that is, the organizational, risk-taking and managerial talents which are so vital to economic growth – or technological knowledge which provides new methods of production and new commodities. It has been postulated, for example, that the number of entrepreneurs and innovators can be expected to increase with population, that as the number of these talented people increases, they are more effective because of interaction among them and because they learn from experience, and that the more educated they are, the more likely they are to introduce new ideas.¹² Given this inadequate understanding, the impact of immigration on entrepreneurship and technological knowledge is very difficult to study and has, therefore, received relatively scant attention.

Immigration directly transfers entrepreneurial talents and technical knowledge insofar as these are embodied in some migrants. Moreover, the intermixing of workers from one milieu into a different culture may generate new ideas and techniques, and the consequent larger population may provide further stimulus. For example, some historians have cited the importance which the Huguenots and other

expelled groups had in the development of England and Holland after the Reformation¹³ and, in more recent years, the importance of migration in providing necessary entrepreneurial and other skills to underdeveloped countries has been stressed.¹⁴

Consumption

Because immigrants differ in various ways from the indigenous population — especially in age, family composition, tastes and in that they frequently arrive with very few commodities — their consumption (or expenditure) patterns may also be expected to be different. Numerous studies, usually based on sample surveys, have been made to ascertain the magnitude and composition of expenditures by immigrants.¹⁵

It is often found that immigrants initially spend a slightly smaller percentage of their incomes than the indigenous population; part of these savings are sent abroad as remittances. Moreover, since immigrants typically have to acquire most of their durable goods — for example, an automobile, furniture and household appliances — after arrival, they very frequently initially occupy rented housing as they quickly attempt to meet their numerous necessary requirements; purchase of a house within a few years after arrival is often the usual practice. To the extent that migrants have brought funds with them, they are able to satisfy these many needs that much sooner; the wife often joins the labour force to supplement family income.]

Government Spending

In addition to requiring goods and services which they purchase directly, immigrants use facilities and services provided (or paid) by government. For example, migrant children must go to school, often adults require special language classes, and immigrant workers may need to use the government employment placement service to find a job. Immigrants also require hospital and medical care. [To the extent that immigrants must meet certain health requirements to enter, they most likely on average make less use of these health facilities than the indigenous population; in contrast, immigrant families are more frequently in the child-bearing age groups and may make above average use of obstetric facilities.] Similarly, if governments make special provisions for migrants — by providing paid passage and initial accommodations as has been the case in Australia, for example — or simply make immigrants eligible for various transfer payments such as family allowances or unemployment insurance, these also involve government spending.

The magnitude of additional government expenditures that is generated by immigration will partly depend on the amount of unutilized capacity in existence, and also on the degree to which overcrowding and reduced quality of service is tolerated. [Since immigrants also pay taxes when they are making an income and spending, the net impact of immigration on the government's budget is not obvious; the particular situation will determine whether these tax revenues are less, or greater, than the government expenditures caused by immigration.

The few existing studies that have attempted to estimate the magnitude of government spending and revenue resulting from immigration point out the

importance of the particular prevailing situation. For example, in Australia government expenditures on immigration are relatively high, whereas in the United Kingdom no special provisions have been made for the Commonwealth immigrants.¹⁶

Investment

The influx of immigrant workers, as already noted, will reduce the amount of capital equipment available per worker unless such migration is accompanied by capital inflows. Should foreign capital be insufficient to maintain the existing capital-labour ratio, domestic investment may increase and thereby provide the required additional capital. The extent to which this will occur depends, on the one hand, on the degree to which investors' expectations are stimulated to undertake new investment and, on the other hand, the ability of the economy to generate the required new savings to provide the necessary resources to investment.

Similarly, the social capital — that is, housing, schools, hospitals, and transportation systems — may be inadequate to meet the needs of the immigrants and further investment in these would be required. Often newly arrived migrants may utilize housing accommodations in the city core areas which would otherwise be unused, or they may crowd into existing facilities; this would enable existing accommodations to suffice temporarily, but in time the migrants would have accumulated savings with which to purchase better facilities.

The existing studies of the impact of immigration on investment spending trace out these various possible impacts and attempt to quantify them; the difficulties of generating the required savings to provide for these investments is frequently stressed.¹⁷

Balance of Payments

As a result of both increased expenditures and increased output resulting from immigration, imports and exports of goods and services are altered and the balance of trade is affected; moreover, the funds accompanying immigrants and the subsequent remittances which they make will affect the capital account. A number of studies have been made to trace out and quantify these effects.¹⁸

It is usually argued that since all expenditures typically involve either directly or indirectly the purchase of some imports, increased expenditures must be accompanied by increased imports. Furthermore, to the extent that immigrants retain their taste for products from their home country, they initially will consume such goods whenever they are available in preference to domestically produced goods; but over time, a growing domestic demand for such products may make it feasible to produce domestically similar (import replacing) goods, possibly with immigrant labour and expertise. Moreover, as the domestic market increases in size, the relative importance of foreign trade typically diminishes, even though in absolute magnitude such trade is larger.

Changes in exports are affected by two major influences. On the one hand, immigrant workers directly or indirectly affect the prices and quantities of exportable commodities; thus, for example, if export goods are labour intensive

products, the increased labour supply brought about by immigration will tend to reduce the relative prices of these goods and increase their supply, thereby making increased exports possible. On the other hand, increased exports also require that foreign countries indeed purchase more of these exports, and this need not automatically occur.¹⁹ Accordingly, it is typically concluded that, definitely in the short-run and perhaps even in the long-run, the net impact of immigration is to increase imports by more than exports so that the resulting adverse trade balance will have to be financed in some way.

This trade balance deficit could be covered by the funds brought over by immigrants, although such transfer of funds is not likely to be that large; alternatively, the deficit may be offset by the autonomous capital inflows which, as already noted, may occur with immigration. Conversely, of course, remittances made by immigrants would further add to the balance-of-payments deficit. It is not obvious, therefore, what the overall impact of immigration will be on the balance of payments.²⁰

Efficient Allocation of Resources

Within a market economy, the increased supplies of inputs and outputs and the concomitant larger size of markets can improve the efficiency of resource allocation in a number of ways. Increased market size may increase competition and enable increased specialization to occur. The labour force may be made more flexible and adaptable to changing requirements. The inflow of workers with specific skills may correct bottlenecks in production and thereby contribute to a larger output; similarly, to the extent that immigrants go to areas of labour scarcity, they substitute for the internal migration of workers. These occurrences will increase output per unit of input; existing resources will now be more efficiently utilized.

Relative Prices

Relative prices will be altered by changes both in the available quantities of factors of production and in the commodities and services that are being supplied and demanded, and in market size and efficiency. Put in the most succinct form, those factors, commodities and services which have experienced an increase in demand (relative to supply) will increase in relative price, whereas those which have undergone an increase in relative supply will decrease in relative price.²¹

Among factors of production, the relative price of labour in general will be lowered by immigration since there will now be an increased stock of labour working in conjunction with other resources.²² The extent to which the relative price of labour will decline will depend on, among other things, the rate at which immigrant workers are arriving, the extent to which the now more abundant labour will be substituted for other relatively scarcer factors of production, and the degree to which the other factors of production and technology are also increased as a result of the increased immigration. Since all of labour is not homogeneous, there will also be relative price changes among types of workers. Those workers who are substitutes for — or compete directly with — immigrant labour will experience declines in their relative wages, whereas those workers who are complementary to

immigrant labour will undergo increases in their relative wages.²³ Wages may differ, of course, for immigrant and indigenous workers in the same occupations; on the one hand, immigrant workers may receive incomplete recognition of their qualifications, be unfamiliar with the prevailing work methods, or have an inadequate understanding of the language, but on the other hand, they may be motivated to work much harder than the more established workers.

Furthermore, these changes in the relative prices of the factors of production will, in turn, affect the relative prices of final goods and services. Unless offset by changes in the pattern of demand, those outputs which are relatively intensive in the use of the now relatively lower priced productive factors will be increased in supply and consequently their relative prices will fall.²⁴

Economic Growth

Among the economic effects of immigration, the effect upon growth has received considerable attention.²⁵ Total output within the economy may be expected to increase as factor inputs increase, but growth in output per worker (or per capita) as a result of immigration will require either concomitant increases in other inputs, increasing efficiency in production through a better allocation of resources, economies of scale, changes in technology or some combination of these.

As already noted, accompanying capital inflows or increased domestic investment are required in order to maintain the existing capital-labour ratio; unless offset by other forces, a reduced capital-labour ratio implies that labour now has fewer complementary factors to work with and, accordingly, labour's productivity would decline. Output per worker and economic growth would diminish.

If some excess (or underutilized) capital capacity existed prior to immigration, immigrant workers would not necessarily be hampered by inadequate supplies of complementary factors; moreover, if the excess capacity existed because there were acute labour shortages in particular occupations, immigration may break these so called bottlenecks and thereby increase output considerably. In the short run, per capita income would increase and to the extent that immigration continues to supply those workers in short supply, the growth rate will be increased. Moreover, to the extent that immigrants represent embodied human capital, such immigration augments the immigrant country's total capital stock; thus per capita output can increase not only through bottlenecks being broken, but also because the indigenous labour force may have an increased human capital-labour ratio.²⁶

Should immigrant workers be accompanied by the required capital (either from foreign capital inflows or through domestic savings), the question then centers about the existence of economies of scale; that is, if all inputs are increased by a particular percentage, will output increase even more? Empirical evidence is not conclusive on this matter.²⁷ If such economies of scale do exist, then immigration will lead to larger per capita incomes and higher growth rates.

If economies of scale exist, then the size of population relative to the available natural resources is less than optimum; seen in this manner, the vast literature on the concept of optimum population is relevant to the study of the effect of immigration on growth.²⁸ However, it has not been possible to estimate even generally what in particular and given circumstances the optimum population for a

region might be; thus it is not possible to indicate either the total or annual flow of migrants which would achieve the optimum population. Moreover, the available quantities of other factor inputs do change, and so too does technology alter; hence the optimum population would be changed as well.

Technology may be augmented directly by immigrants, as has already been indicated; and since technological advance is an important source of per capita growth, immigration may contribute to increased growth indirectly through its contribution to technological knowledge.²⁹ The inflow of immigrant labour may also stimulate technological change both by making it more readily undertaken and by encouraging it to follow certain patterns. It has been argued that the rapid rate of capital expansion which often accompanies immigration enables a higher rate of technological change to take place because new technology can more readily be introduced by means of modern capital equipment.³⁰ Similarly, the ready availability of labour (from both the agricultural sector and from immigration) in most Western European countries during the 1950s has been regarded as a major factor sustaining the high rates of industrial growth (especially in total output) in those countries during that decade;³¹ an increasing supply of labour made the labour force more flexible and adaptable and thereby more readily adjustable to industrial changes, and also prevented rapid increases in wages and thereby permitted adequate profits to be available for capital growth. In contrast, it has also been argued that acute labour shortages have encouraged labour-saving innovations to be adopted which have been responsible for subsequent growth.³² Thus it would appear that the circumstances in which immigration occurs is at least as important as immigration itself in determining the effects on economic growth.

Price Levels and Unemployment

Immigration causes increases in both aggregate supply and demand, and which increases relatively more is of critical importance. If aggregate demand rises relatively more, there will be so called "demand pull" pressures on the price level to rise and/or for the existing level of unemployment to decrease; if aggregate supply increases relatively more, the converse can be expected.

But even if excess demand did not develop, inflationary pressures might still result. It has been argued, for example, that if either the immigrants adopted the real wage level of indigenous workers or if real wages were inflexible downward because of any number of institutional constraints, the real costs of production for the firm would increase after immigration occurred since (as already noted) in the absence of counteracting forces the productivity of labour would decrease with the lower capital-labour ratio. Consequently, fewer workers would be hired or commodity prices would be increased — but only the latter would occur in a country in which the government was committed to maintaining full employment. With higher levels, workers would attempt to obtain wage increases in order to maintain their real wages; thus a "cost-push" inflation would result.³³

"Demand-shift" inflation might also occur. Pressures on the levels of prices and unemployment could arise from changes in the composition of the labour force and output that result from immigration. If demand for output occurred in sectors of the economy where there were inadequate labour or other productive factors, there would be pressures on prices to rise; conversely, as already noted, immigrant workers might eliminate bottlenecks in production and thereby reduce both

pressures on prices and unemployment, but if immigrants were generally to try to enter occupations and industries where employment opportunities had not increased much as a result of increased aggregate demand, unemployment of either migrant workers or indigenous workers whom migrants have displaced could result.

As indicated in the preceding paragraphs, under certain circumstances immigration may decrease (or increase) the pressures on *both* inflation and unemployment; in more formal terms, immigration may shift the "trade-off" curve between general price increases and unemployment.³⁴

Empirical studies suggest that post-war migrations into Australia, Israel and the United Kingdom have been inflationary;³⁵ the inflow of foreign workers into Western Europe, in contrast, has generally been regarded as reducing the existing inflationary pressures.³⁶ Many foreign workers to Western Europe have migrated without their families and consequently they have contributed relatively more to aggregate supply than demand; moreover, these workers have also relieved acute labour shortages and bottlenecks in production.

Income Distribution

The effects of migration on income distribution are complex and the necessary data for analysis are not readily available; not surprisingly, there have been no extensive empirical studies of this impact. The theoretical analysis can also be complex, but in its simplest terms is readily summarized.³⁷ As already noted, immigration will affect the relative prices of the factors of production. To the extent that labour becomes relatively more abundant, wages will decline relative to other factor prices; and within the labour force itself, those workers who compete with immigrant workers will find their relative wage decrease, whereas those who are complementary to immigrant workers will have relatively increased wages. Thus, unless offset by other forces, immigration tends to decrease the relative income share of the indigenous workers in total, but those groups of complementary workers may indeed gain in relative terms. On the other hand, those factors, such as capital and land, that in most instances are complementary to labour will have an increased share of national income.³⁸ The redistributive effects on the relative incomes of individuals will also depend, of course, on the extent to which their incomes accrue from these various sources.³⁹

Regional Impact of Immigration

Immigration affects regions directly in that immigrants generally choose to locate in particular regions and cities, and indirectly through the multiplicity of effects which follow from the increases in aggregate supply and demand that result from immigration. Insofar as immigrants tend to settle within regions that are experiencing economic growth and labour shortages, international immigration can add to, and even take the place of, the internal movement of workers to such areas; and by contributing to the growth and development of these expanding areas, international immigration furthers the existing regional disparities in the extent of industrialization and total wealth.

The Aggregate Impact of Immigration

These various effects of immigration could be analysed simultaneously within the framework of a model of the recipient country's economy. By adopting this method of analysis, the secondary interactions among these effects would be taken into account more readily, and the magnitudes of these effects could be estimated; such estimates, however, may be significantly affected by the structure of the model that is constructed.

A number of studies of this type have been undertaken in recent years of immigration into Australia, New Zealand and the United Kingdom;⁴⁰ needless to say, the analysis embodied in these studies are complex, and only a brief summary of the main results can be recorded here.

The first major attempt to use a model to study the economic impact of immigration was applied to the Australian experience. Immigration was not found to be a significant element in most of the relationships and, accordingly, it was concluded that

The absence of a significant effect of immigration in the majority of the equations of the system is a noteworthy result. It appears that the flow of immigrants has been absorbed into the Australian economy with relatively little structural change. The migration flow has not been large enough to disturb most of the existing relationships.⁴¹

However, it appears that these were obtained partly because of the aggregate data which were used, but largely because of the way in which the impact of immigration was set out in the various relationships.⁴²

Another major use of a model has been made in analysing the impact of recent Commonwealth immigration into the United Kingdom. A number of relationships were postulated, but instead of empirically estimating these relationships, the likely forms of the relationships were set out and arguments advanced as to their reasonableness. The results which are derived are in marked contrast to those found for the Australian analysis:

... the import of labour . . . does *not* in general act to reduce excess aggregate demand in the host country. Indeed. . . in the absence of government intervention, large scale immigration into a fully employed Britain would be likely to lead for a number of years to an increase in excess domestic demand and to a worsening in the balance-of-payments position. . . . Within the domestic economy the absorption of the immigrant labour force lowers the capital-labour ratio and tends to redistribute incomes away from labour in favour of the owners of capital and land. As far as overseas trade is concerned, the increase in population from immigration leads to a greater demand for imports and, hence, to an attempt to increase exports, both actions serving to turn the terms of trade against the U.K. . . . Our knowledge of the precise nature of the long-term relationship between labour supply and output is limited and imperfect. This much, however, can be said: the longer run changes in the British economy brought about by an influx of labour are likely to be small. . . .⁴³

An approach similar to the above, but more simplified, has been used to analyse and quantify the effects of an increased inflow of (4,000) immigrants into New Zealand. In summary, the results were that

a higher rate of general immigration in *present circumstances* would generate further

pressure on resources in the economy and would cause increased difficulties without balance of payments. . . .

Nevertheless, we see an increased inflow of assisted skilled immigrants as likely, on balance, to be advantageous to the economy even under present circumstances. . . .⁴⁴

The findings derived from these models are not basically different than those obtained from a more restricted analysis; however, the use of models can provide quantitative estimates of the impact of immigration. Moreover, it is clear that both the specification of the model and the particular circumstances in which immigration occurs will have some influence on the results that are obtained.

SOME CONCLUDING REMARKS

The above survey and summary has been lengthy and thereby serves to point out that the analysis of the economic effects of immigration is detailed and often complex. And in the end when all of these various ramifications have been studied, there remains the very difficult task of quantifying these effects and making some overall assessment of the economic impact of immigration. As was indicated in the previous chapter, insofar as some groups within the economy are benefitted while others are made worse off, the ultimate assessment will undoubtedly require some value judgment; but that assessment will also require an accounting of the various costs and benefits of migration, even though some people express considerable doubt that such a cost-benefit approach to the impact of migration is either possible or desirable.⁴⁵ A formal cost-benefit approach has not been undertaken within this study since measurements of the various economic effects of immigration often were not possible with the available data; instead, the relative importance of the effects of immigration, as compared with other sources of change, are usually indicated.

FOOTNOTES

¹ Milton Friedman points out that children can be raised more cheaply in some regions (rural areas in particular) and hence argues that the export of population from these areas can be regarded as a rational allocation of resources. *Price Theory a Provisional Text* (Chicago: Aldine Publishing Co., 1962), pp. 208-10.

² Conversely, other forces exist which decrease labour productivity differentials among countries and thereby reduce the migration of labour. For example, the movement of capital from countries of relative capital abundance will tend to equalize factor earnings and thereby reduce the incentives for factor movements. International trade in goods and services is a substitute for the movements of factors of production and under certain strict assumptions the prices of factors of production will be equalized between countries without any movements of productive factors having taken place. (See, for example, J. E. Meade, *Trade and Welfare* (London: Oxford University Press, 1955), pt. 3.) That is, a country can produce comparatively more cheaply — and therefore export — those goods and services which require relatively greater amounts of its cheaper (more abundant) factors, so that international trade increases the demand for its relatively more abundant factors and thereby increases their relative prices; similarly, those goods and services are imported which are comparatively more costly to produce because they require relatively large amounts of the scarcer factors, and thus trade tends to reduce demand within the country for these relatively scarcer factors and thereby decreases their relative prices. However, since impediments to trade — tariffs and quotas, for example — curtail trade and, therefore, increase differentials in factor prices between countries, such impediments stimulate the international movements of factors, including labour.

³ See, in particular, H. G. Grubel and A. D. Scott, "Determinants of Migration: The Highly Skilled", *International Migration* 5:127-29; L. A. Sjaastad, "The Costs and Returns of Human Migration", *Journal of Political Economy*, 70 (Supplement, October 1962), pp. 80-93; and J. Isaac, *Economics of Migration* (London: Kegan, Paul, Trench, Trubner and Co. Ltd., 1947), chap. 3.

⁴ The income and costs which such a worker is considered to take into account are defined very broadly in the formal analysis to include both pecuniary and non-pecuniary items. Thus expected real income includes not only his (and his family's) anticipated earnings, but also fringe benefits, the level of taxes and the government payments and services that are received in return, the extent and likelihood of unemployment, and the general cost of living; climate, reduced pollution, greater social order and proximity of relatives and friends, for example, are included among the non-pecuniary items which would be considered. Similarly, the costs of migrating include the transportation fare, the expenses of selling (and again buying) a house, and the income foregone while actually making the move; leaving familiar places for another in which perhaps a different language, culture and social organization prevail would be included among the non-pecuniary considerations.

⁵ And conversely, an economic contraction or recession in the country of destination would reduce the amount of immigration.

In contrast, although a recession in the home country would reduce earnings and could result in the same expected increases in incomes as that resulting from an economic expansion abroad, these lower earnings currently being received would likely make it more difficult for the worker to cover the costs of moving; it is not obvious, therefore, what will be the net effect on migration.

⁶ The major migratory movements have been described and studied in numerous monographs. For a discussion of the pre-Second World War movements, see, for example, W. F. Willcox, ed., *International Migration*, vol. 2 (New York: National Bureau of Economic Research, 1931); for the more recent migration, see the International Labour Office, *International Migration, 1945-1957* (Geneva: International Labour Office, 1959); and A. T. Bouscaren, *International Migration Since 1945* (New York: Praeger, 1963).

The classic and most comprehensive study of short-run and seasonal fluctuations in migration is that by H. Jerome, *Migration and Business Cycles* (New York: National Bureau of Economic Research, 1926). More recent studies likewise confirm the results of the earlier works; see, for example, B. M. Fleisher, "Some Economic Aspects of Puerto Rican Migration to the United States", *Review of Economics and Statistics* 45:245-53; A. C. Kelley, "International Migration and Economic Growth, Australia: 1965-1935", *Journal of Economic History* 25:333-54; M. Wilkinson, "European Migration to the United States: An Econometric Analysis of Aggregate Labor Supply and Demand", *Review of Economics and Statistics* 52:272-79. The only study in which a strong relationship between immigration and unemployment rates was not established was that by J. Kmenta, "Australian Postwar Immigration: An Econometric Study" (Ph.D. thesis, Stanford University, 1964), chap. 2; however, other studies indicate otherwise. See, for example, R. T. Appleyard, "The Effect of Unemployment on Immigration to Australia", *Economic Record* 39:65-80 and his "The Economics of Recent Emigration to Australia from Germany and the Netherlands", *International Migration* 1:29-37.

The relationship between the longer economic cycles and immigration has been studied by B. Thomas, *Migration and Economic Growth: A Study of Great Britain and the Atlantic Community* (Cambridge, Mass.: Cambridge University Press, 1954) (and second edition, 1973); a shorter version is given in his *Migration and*

Urban Development (London: Methuen and Co. Ltd., 1972).

For a summary of the findings of these and related studies, see especially L. Parai, "Canadian International Immigration, 1953-1965: An Empirical Study" (Ph.D. thesis, Yale University, 1969) chaps. 1 and 2 and apps. 1 and 2, and United Nations, *The Determinants and Consequences of Population Trends*, chap. 6.

⁷ The literature on the subject is immense. For useful summaries of the main issues and the magnitudes of movements, see M. Blaug (ed.), *Economics of Education: 2 Selected Readings*, pt. 3; W. Adams, *The Brain Drain*; Sudha Shenay, "The Movement of Human Capital", in the Institute of Economic Affairs, *Economic Issues of Immigration* (London, 1970); A. D. Scott, "The Brain Drain – Is a Human Capital Approach Justified?" in *Education, Income and Human Capital*, W. L. Hansen ed. (New York: Columbia University Press, 1970); G. Psacharopoulos, "On Some Positive Aspects of the Economics of the Brain Drain", *Minerva* 9:231-42; and R. G. Myers, *Education and Emigration* (New York: David McKay Company, Inc., 1972), especially chap. 2.

⁸ For two excellent summaries of the economic impact of immigration, see B. Thomas, *International Migration and Economic Development* (Paris: UNESCO, 1961), pp. 24-48, and the United Nations, *The Determinants and Consequences of Population Trends*, chap. 16.

⁹ See, in particular, the United Nations, *The Determinants and Consequences of Population Trends*, chap. 16; International Labour Organization, *International Migration, 1945-1957*, especially chaps. 8 and 10; C. P. Kindleberger, *Europe's Postwar Growth, The Role of Labor Supply* (Cambridge, Mass.: Harvard University Press, 1967), especially chaps. 2 and 10; V. Lutz, "Foreign Workers and Domestic Wage Levels with an Illustration from the Swiss Case", *Banca Nazionale Del Lavoro Quarterly Review*, 16:3-68; W. R. Bohning, *The Migration of Workers in the United Kingdom and the European Community* (London: Oxford University Press, 1972); K. Jones and A. D. Smith, *The Economic Impact of Commonwealth Immigration* (Cambridge, Mass.: Cambridge University Press, 1970), chaps. 3 and 4; Australia, *Report of the Committee of Economic Enquiry*, vol. 2, pp. 521-23, and W. D. Borrie and J. Zubrzycki, "Employment of Postwar Immigrants in Australia", *International Labour Review*, 77:239-53.

¹⁰ B. Thomas, *Migration and Economic Growth: A Study of Great Britain and the Atlantic Community*.

¹¹ See, for example, S. Riemer, "Israel: Ten Years of Economic Dependence", *Oxford Economic Papers*, 12:141-49, and H. W. Arndt, "The National Economy of Australia and Migration", *International Migration* 2:2-73. (This is reprinted as chap. 2 of his *A Small Rich Industrial Country* (Melbourne: F. W. Cheshire Publishing Pty. Ltd., 1968).

¹² See, in particular, A. C. Kelley, "Scale Economies, Inventive Activity, and the Economics of American Population Growth", *Explorations in Economic History*, 10:35-52, and his "Demographic Changes and American Economic Development: Past, Present and Future", in *Economic Aspects of Population Change*, E. R. Mors and R. H. Reed, eds., pp. 9-44; R. R. Nelson and E. S. Phelps, "Investment in Humans, Technological Diffusion and Economic Growth", *American Economic Review* 56:69-75; K. Arrow, "The Economic Implications of Learning by Doing", *Review of Economic Studies* 29:155-73.

¹³ H. Heaton, *Economic History of Europe* (New York: Harper and Brothers, 1948), pp. 218-19; W. W. Rostow, *The Stages of Economic Growth* (Cambridge: Cambridge University Press, 1960), pp. 51-52; J. Isaac, *Economics of Migration*, chap. 2, especially pp. 12-16.

¹⁴ J. S. Fforde, *An International Trade in Managerial Skills* (Oxford: Oxford, Basil Blackwell, 1957), and T. H. Silcock, "Migration Problems of the Far East", chap. 18 in *The Economics of International Migration*, B. Thomas, ed. (London: Macmillan and Co. Ltd., 1958).

¹⁵ See, in particular, K. Jones and A. D. Smith, *The Economic Impact of Commonwealth Immigration*, chaps. 5 and 6; J. McCaughey, "Migrants", in R. F. Henderson, et al., *People in Poverty, a Melbourne Survey* (Melbourne: University of Melbourne Press, 1970), pp. 119-45; R. T. Appleyard, *Low-Cost Housing and the Migrant Population* (Committee for Economic Development of Australia, 1963); T. Bakkers, "House Finance for Netherlands Migrants in Australia", *International Migration* 1:49-60.

¹⁶ K. Jones and A. D. Smith, *The Economic Impact of Commonwealth Immigration*, chap. 6, and P. Sharp, "Why Continue Immigration", in Australian Institute of Political Science, *How Many Australians? Immigration and Growth*, chap. 4.

¹⁷ See, for example, K. Jones and A. D. Smith, *The Economic Impact of Commonwealth Immigration*, chap. 7; R. J. Cameron, "Immigration and the Labour Shortage", *Australian Quarterly* 22:104-12; and L. J. B. Fox, et al., *The Impact of Immigration* (Sydney: Commonwealth Bank of Australia, 1950), pp. 12-15.

¹⁸ See, in particular, K. Jones and A. D. Smith, *The Economic Impact of Commonwealth Immigration*, chap. 9; E. J. Mishan and L. Needleman, "Immigration, Excess Aggregate Demand and the Balance of Payments", *Economica* 33:129-47, which is summarized in their "Immigration: Some Economic Effects", *Lloyd's Bank Review*, no. 81 (1966), pp. 33-46; and J. Isaac, *Economics of Migration*, chap. 7.

¹⁹ The reduced population in the foreign countries will require fewer foreign-made goods. But if per capita income increases as a result of the reduced labour supply, the demand for such goods will increase; the resulting

increases in expenditures by recipients of migrant remittances will lead to additional demand for foreign-made goods. These changes in the demand for imports will be shared, of course, by a number of trading countries.

²⁰ Should there be a net deficit, either the country's foreign exchange reserves will be decreased or the value of the domestic currency (in terms of foreign currency) will depreciate. In the latter instance, foreign goods and services would become more expensive; the country's terms of trade would be adversely affected. The converse, of course, would result in the event that there was a net surplus in the balance of payments.

²¹ In particular, see J. J. Spengler, "The Economic Effects of Migration", in Milbank Memorial Fund, *Selected Studies of Migration Since World War II* (New York, 1958), pp. 172-92, and his "Effects Produced in Receiving Countries by Pre-1939 Immigration", in *The Economics of International Migration*, ed. B. Thomas, chap. 2, and P. H. Karmel, "The Economic Effects of Immigration", in H. E. Holt, et al., *Australia and the Migrant* (Sydney: Angus and Robertson, 1953).

²² J. Isaac, *Economics of Migration*, pp. 200ff; V. Lutz, "Foreign Workers and Domestic Wage Levels with an Illustration from the Swiss Case"; International Labour Organization Reports and Inquiries, "Foreign Workers in Switzerland", *International Labour Review* 87:137.

²³ Similarly, the relative prices of those factors of production which are substitutes for immigrant labour — and for labour for which relative prices have declined — will decrease, whereas the relative prices of those productive factors which are complements will increase.

Whether or not the *relatively lower* prices entail *lower absolute* prices depends on the net effect of the opposite income and substitution effects. That is, increased efficiency and economic growth will increase the absolute prices of factors, whereas the relatively more abundant supply will decrease these prices. Moreover, to the extent that goods purchased by workers may be relatively labour intensive, the fall in the relative price of these so called "wage goods" would represent an increase in the real wages being received.

²⁴ And as already noted, immigrants will also make expenditures; to the extent that their tastes differ from those of the indigenous population, the pattern of demand for goods and services will be altered, and this will further affect relative prices. Similarly, the pattern of demand by the indigenous population will change as their incomes change.

²⁵ See, for example, J. J. Spengler, "The Economic Effects of Migration", pp. 176-81; K. Jones and A. D. Smith, *The Economic Impact of Commonwealth Immigration*, chap. 8; E. J. Mishan and L. Needleman, "Immigration — Some Long Term Economic Consequences", *Economia Internazionale* 21:281-300, 515-24 which is summarized in their "Immigration: Long-Run Economic Effects", *Lloyd's Bank Review*, no. 87 (1968), pp. 15-25, and in E. J. Mishan, "Does Immigration Confer Economic Benefits on the Host Country?" in the Institute of Economic Affairs, *Economic Issues of Immigration*, chap. 5; W. M. Corden, "The Economic Limits to Population Increase", *Economic Record* 31:242-60; G. D. A. MacDougall, "The Benefits and Costs of Private Investment from Abroad: A Theoretical Approach", *Economic Record* 36:13-35; and P. J. Lloyd, "Immigration Policy: An Economist's View" (Australian National University, 1970).

²⁶ For a recent analysis of the impact of human capital on growth, see L. Neal and P. Uselding, "Immigration: A Neglected Source of American Economic Growth: 1790 to 1912", *Oxford Economic Papers* 24:68-88.

²⁷ As investigated in particular reference to immigration, see A. N. E. Jolley, "Immigration and Australian Postwar Economic Growth", *Economic Growth* 47:47-59.

²⁸ For an extensive summary of this literature, see the United Nations, *Determinants and Consequences of Population Trends*, chaps. 12 and 13; for a good discussion of the relationship of migration to optimum population, see J. Isaac, *Economics of Migration*, chap. 4.

²⁹ For example, E. F. Denison, *The Sources of Economic Growth in the United States and the Alternatives Before Us* (New York: Committee for Economic Development, 1962), especially chaps. 21 and 23, estimates that 20 per cent of the growth in total national income — and 36 per cent of the growth in national income per person employed — during the period 1929-57 was due to advances in knowledge; similarly, E. F. Denison, *Why Growth Rates Differ, Postwar Experience in Nine Western Countries* (Washington, D.C.: The Brookings Institution, 1967), chap. 21, estimates that during the period 1950-62, 20 per cent of the growth in the national income per employed person in Northwest Europe was the result of advances in knowledge.

³⁰ H. W. Arndt, "The National Economy of Australia and Migration", *International Migration* 2 (no. 1, 1964), p. 70.

³¹ N. Kaldor, *Causes of the Slow Rate of Economic Growth of the United Kingdom*, Cambridge University Press, 1966; C.P. Kindleberger, *Europe's Postwar Growth, the Role of Labor Supply*, and United Nations, Secretariat of the Economic Commission for Europe, *Some Factors in Economic Growth in Europe During the 1950s* (being Part 2 of the Economic Survey of Europe in 1961), United Nations, Geneva, 1964.

³² However, C.P. Kindleberger, *op. cit.*, pp. 203-04, cites historical evidence to argue that steady wages have not necessarily prevented labour-saving innovations from being adopted.

³³ A. P. Lerner, "Immigration, Capital Formation, and Inflationary Pressure", in *The Economics of International Migration*, ed. B. Thomas, chap. 3; P. H. Karmel, "The Economic Effects of Immigration", and W. M. Corden, "The Economic Limits to Population Increase".

³⁴ For an excellent summary of the "trade-off" concept, see J. S. L. Winder, "Structural Unemployment", chap. 4 in *The Canadian Labour Market*, ed. A. Kruger and N. M. Meltz (Toronto: Centre for Industrial Relations, University of Toronto, 1968), especially pp. 156-64.

³⁵ H. W. Arndt, "The National Economy of Australia and Migration"; E. J. B. Foxcroft, et al., *The Impact of Immigration*; S. Riemer, "Israel: Ten Years of Economic Dependence"; U. Bahral, *The Effect of Mass Immigration on Wages in Israel* (Jerusalem: Falk Project for Economic Research in Israel, 1965); E. J. Mishan and L. Needleman, "Immigration, Excess Aggregate Demand and the Balance of Payments", and "Immigration: Some Economic Effects".

³⁶ V. Lutz, "Foreign Workers and Domestic Wage Levels with an Illustration from the Swiss Case"; C. P. Kindleberger, *Europe's Postwar Growth, The Role of Labor Supply*, p. 4; T. Bain and A. Pauga, "Foreign Workers and the Intra-industry Wage Structure in West Germany", *Kyklos* 25 (no. 4, 1972), pp. 820-24.

³⁷ See, W. M. Corden, "The Economic Limits to Population Increase"; M. W. Reder, "The Economic Consequences of Increased Immigration", *Review of Economics and Statistics* 45:221-30; J. J. Spengler, "The Economic Effects of Migration", and E. J. Mishan and L. Needleman, "Immigration: Some Long Term Economic Consequences".

³⁸ The share accruing to any particular factor is equal to

$$\frac{(\text{price of that particular factor}) \times (\text{quantity of that factor})}{(\text{average price of all other factors}) \times (\text{quantities of other factors})}$$

Changes in a factor's share of income can thus be conveniently viewed as being determined by two elements: changes in relative factor prices and changes in the ratio of the factors. Hence the study of changes in factor shares consists of analysing these changes and the extent to which they are interdependent, since the combinations in which factors can be employed in production are technically specified by the existing methods of production.

In the case of a factor whose supply has not changed as a result of immigration — for example, the supply of indigenous workers — the ratio of this factor to all factors has, by definition, declined; moreover, in those cases where the indigenous factors are substitutes for (or compete with) immigrant labour, the decline in their relative price further contributes to the decrease in their share of income. Conversely, where relative factor prices have increased — as among complementary factors — the income share of such factors will rise if the change in relative prices exceeds the decline in the factor ratio.

³⁹ It should perhaps be stressed that a decline in factor's or individual's share of income does not necessarily mean that the factor's *absolute* income has declined. For example, the absolute wage income of an indigenous worker will increase if economies of scale, increased efficiency of allocation, or improved technology that result from immigration are sufficient to offset the decline in wages resulting from the increased supply of labour. Put in other words, if the total output of the economy increases, a reduced share (or proportion) of it can, nevertheless, represent a larger absolute income.

⁴⁰ J. Kmenta, *Australian Postwar Immigration: An Econometric Study*, chap. 6, with the model and its results having been published in his "An Econometric Model of Australia, 1948-61", *Australian Economic Papers* 5:131-64; J. H. Duloy, "Structural Changes Due to Immigration: An Econometric Study", *Australian Economic Papers* 6:223-33; New Zealand Monetary and Economic Council, *Increased Immigration and the New Zealand Economy*; E. J. Mishan and L. Needleman, "Immigration, Excess Aggregate Demand and the Balance of Payments", and their "Immigration — Some Long Term Economic Consequences", provide the rigorous analysis of their model, while a more simplified presentation is given in E. J. Mishan, "Does Immigration Confer Economic Benefits on the Host Country?".

⁴¹ J. Kmenta, *Australian Postwar Immigration: An Econometric Study*, p. 210; much the same words are to be found in his "An Econometric Model of Australia, 1948-61", p. 147.

⁴² J. Kmenta postulated a 15-equation model for which the parameters were empirically estimated from the appropriate annual data for the period 1946-61. Immigration could be expected to have an effect in most of these relations; accordingly, immigration was introduced in a form which affected the "intercept" rather than the "slope coefficient" of the equations. Only in the equations for business demand for fixed capital investment

and the demand for imports was immigration a statistically significant variable; but as Duloy has shown, a more apt specification of the relationship would have made immigration significant in other equations as well.

Tracing the effect of immigration on investment and imports through the model, Kmenta found ". . . that a current net influx of 1,000 migrants increases the demand for imports by £1.9 million and the demand for business fixed capital by £0.4 million; consequently, consumption is reduced £1.9 million and GNP by £3.7 million. Immigration apparently has no immediate effect on prices, but productivity is lowered and, therefore, average wage earnings are depressed." (*Australian Postwar Immigration: An Econometric Study*, p. 220.)

⁴³ E. J. Mishan and L. Needleman, "Immigration: Long-Run Economic Effects", *Lloyd's Bank Review*, 87:15-16.

In their rigorous analysis, Mishan and Needleman attempt to quantify these effects. By taking various likely values of the parameters in their postulated relationships, they are able to compute the likely range of the changes in such things, for example, as excess demand, the balance of payments, and the rates of growth.

⁴⁴ New Zealand Monetary and Economic Council, *Increased Immigration and the New Zealand Economy*, p. 15.

⁴⁵ See, for example, R. T. Appleyard, "Immigration and the Australian Economy", in the Australian Institute of Political Science, *How Many Australians? Immigration and Growth*, p. 6, who echoes the reservations expressed earlier by H. Arndt. In contrast, see C. P. Kindleberger, *Europe's Postwar Growth, The Role of Labor Supply*, chap. 10, and E. Gehmacher, "Economic and Social Cost-Benefit Analysis of Foreign Workers Occupation", paper presented at the Policy and Research Migration Conference, University of Waterloo, October 1973.

CANADIAN POST-WAR IMMIGRATION

The purpose of this chapter is to describe briefly the nature and limitations of the available data on immigration to, and emigration from, Canada, and to summarize the salient features of these movements. This will provide the perspective within which the economic effects of this immigration can be analysed in the following chapter.

THE AVAILABLE MIGRATION STATISTICS¹

Those people who are granted admission into Canada as landed immigrants are counted as immigrants; their number, together with detailed information about their characteristics, are recorded by the Department of Manpower and Immigration from forms which are filed by these migrants. The resulting statistics, published quarterly and annually,² have a number of inherent limitations. Particularly since 1967, landed immigrant's status has been granted to non-residents already in Canada; thus the actual arrival of such people predates the time when they are recorded as arriving immigrants. The available data make no distinction — as is done in the statistics of Australia, for example — between those migrants who intend to reside in the country for a short or a long period of time.

By far the most serious deficiency is that there are no official statistics compiled within this country of emigration from Canada.³ An incomplete record may be tabulated by utilizing the American statistics of immigration into the United States from Canada and the British data of migrants from Canada arriving by boat in the United Kingdom.

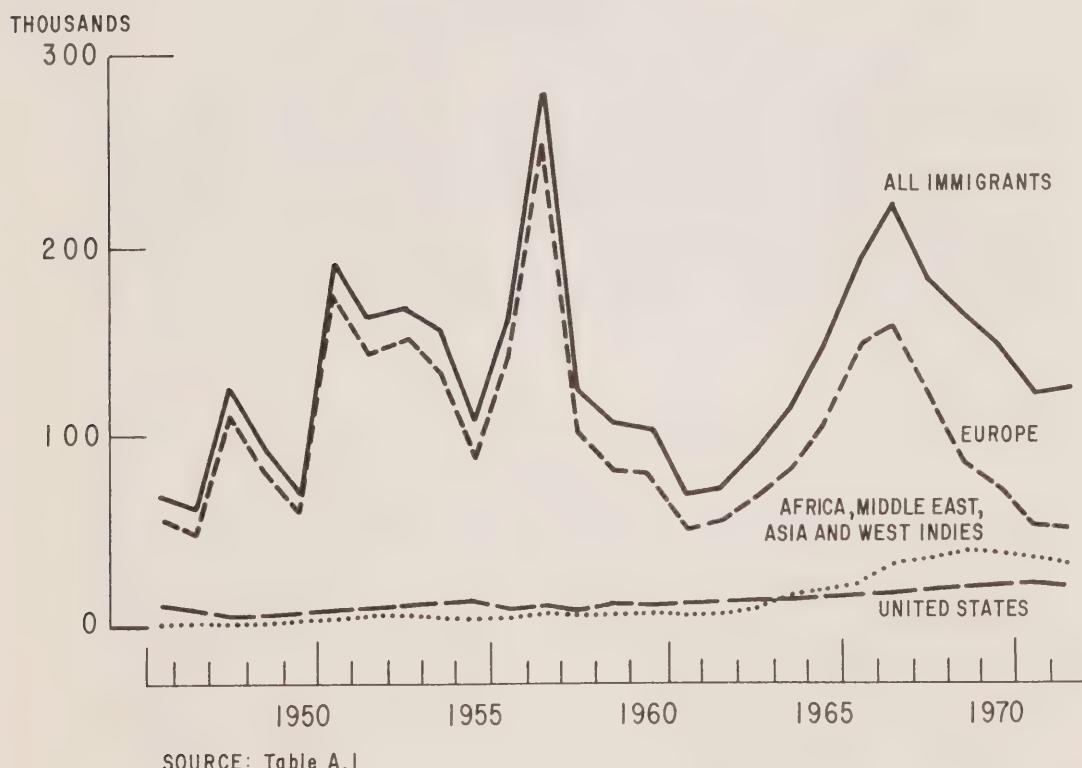
Data on immigrants still residing in Canada are available from two major sources: the decennial census and various surveys. The census provide not only detailed information about numerous characteristics of these migrants, but also the means (together with the available data on immigration, births and deaths) to estimate intercensus emigration. Regular samples, such as the survey of family incomes and expenditures and the labour force survey each February, highlight different characteristics of these immigrants and provide annual data for intercensus years. Moreover, a longitudinal survey — that is, a survey which collects information from the same group over a period of time — currently underway within the Department of Manpower and Immigration is obtaining information, among other things, about the economic adjustment of these migrants.

POST-WAR IMMIGRATION INTO CANADA

Annual immigration into Canada, in total and from major areas of last permanent residence, is summarized in Chart 4.1. During the years 1946-72, almost 3.7 million immigrants arrived in Canada; this number is only exceeded by the 7.5 million who migrated to the United States during the same period, and the 3.9 million migrants recorded as arriving in Australia.⁴ The largest single source of

immigrants to Canada has been the United Kingdom and Ireland, and over 85 per cent of all post-war immigrants to Canada have come from Europe and the United States. However, since 1961⁵ and especially since 1967, the proportion of immigrants coming from the West Indies, the Middle East, Asia and Africa has increased noticeably; during the decade of the 1950s, 4.5 per cent of all immigrants to Canada came from these areas as compared with over 23.4 per cent during the last six years. In contrast, migration from Europe decreased from 86.7 per cent to 56.6 per cent during the same period. The other notable feature of the data is the marked fluctuations which have occurred in annual migration.

Chart 4.1
Annual Immigration into Canada, by Major Areas
of Last Permanent Residence, 1946-72



SOURCE: Table A.1

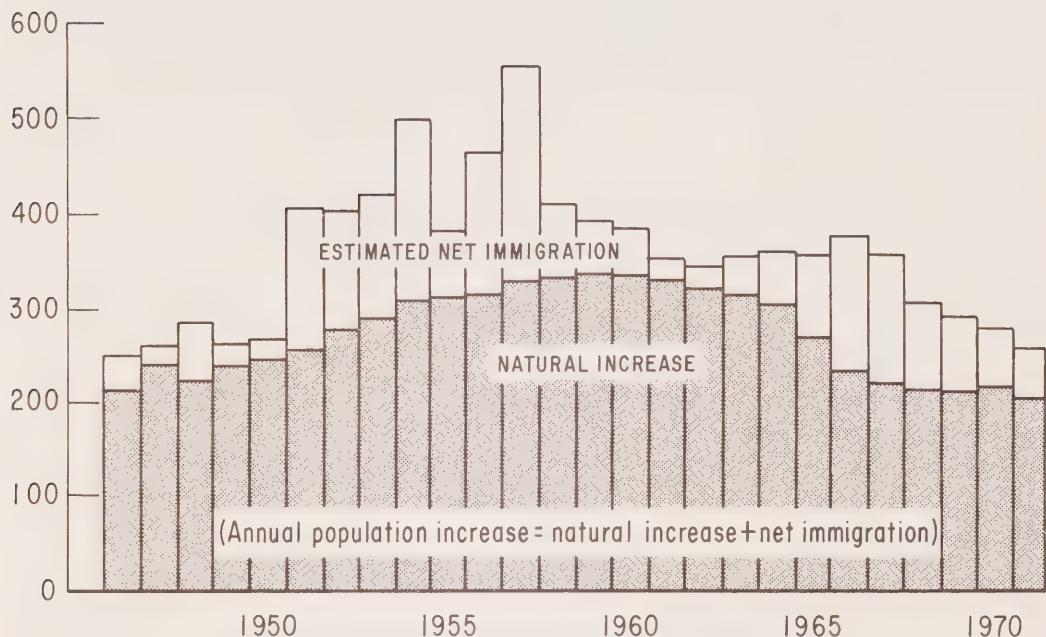
ESTIMATED NET IMMIGRATION

The significance of this post-war immigration, in particular estimated net immigration, is shown in Chart 4.2. During the period 1946-71, the population of Canada increased by almost 9.2 million; immigration was just over 3.5 million and estimated emigration was 1.5 million, giving an estimated net immigration of 2.0 million which accounted for 22.1 per cent of the population growth. It should also be noted that considerable variation exists in the estimated net immigration, these fluctuations being similar to the fluctuations in gross immigration; natural increase

has been declining during the past decade.

Chart 4.2

Major Components of Annual Population Growth in Canada, 1946-71



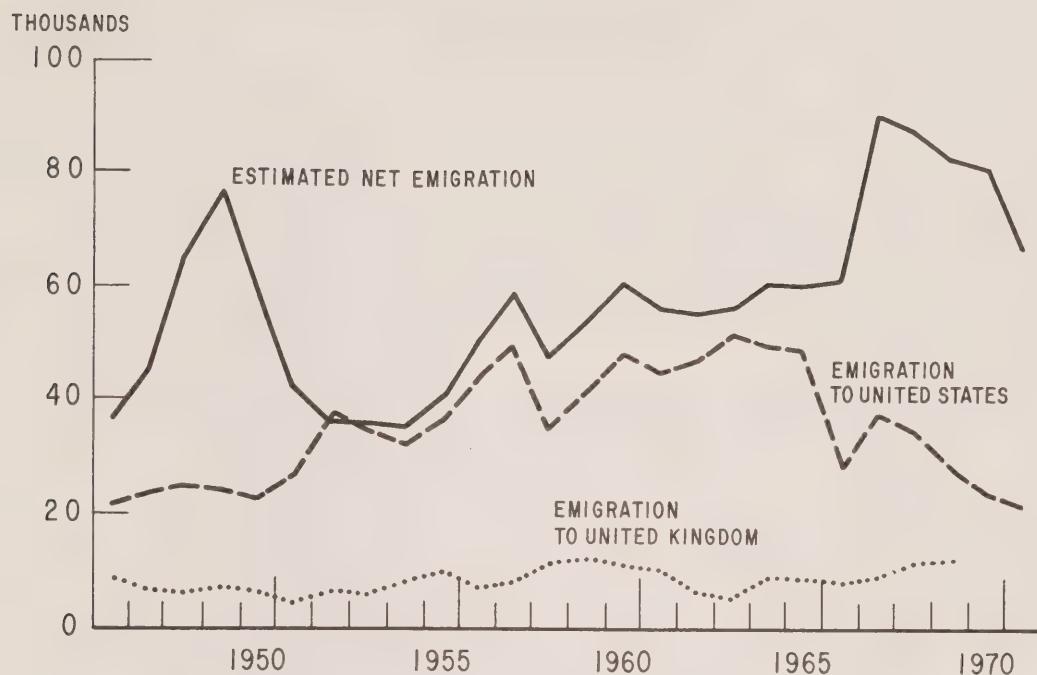
SOURCE: Table A.2

Chart 4.3 shows estimated emigration⁶ and the recorded data of emigration from Canada to the United Kingdom and the United States. It will be noted that by far the largest outflow is to the United States, that this emigration to the United States increased over the years, but it contracted sharply after 1965 when the new immigration regulations of the United States came into effect; according to these new provisions, in order to be eligible for entry, immigrants to the United States from any part of the world have to fill job openings which cannot otherwise be filled domestically, and hence the preferred status previously afforded to Canadians no longer exists.⁷

The estimated emigration figures really reflect emigration from Canada minus the number of Canadian residents returning;⁸ thus it is instructive to compare these estimated emigration figures to the recorded migration from Canada to the United States and the United Kingdom to glean some information about the possible magnitude of emigration elsewhere. In most years, the differences between the two sets of data are relatively small, indicating that emigration from Canada to the rest of the world is not much different than the (net) return flow of Canadian residents.

The available census data provide some further information of interest. As shown in Chart 4.4, about two-thirds of the post-war immigrants were still in Canada in June 1971; the remainder presumably had returned home or emigrated

Chart 4.3
Emigration from Canada, 1946-71



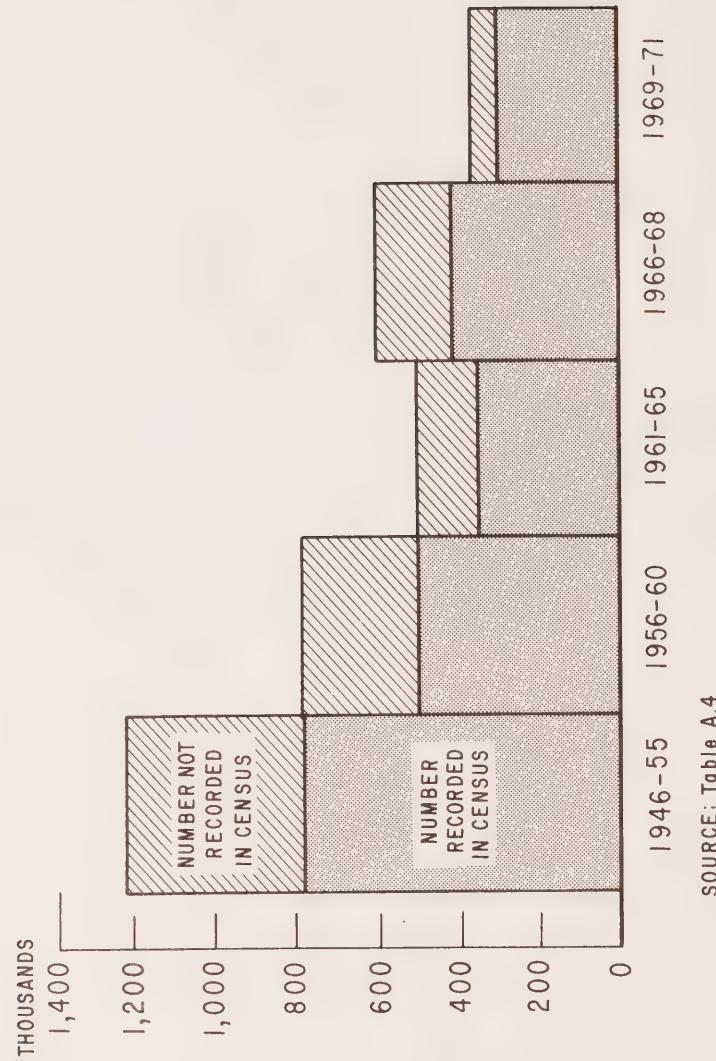
SOURCES: Tables A.2 and A.3

elsewhere, had died, or were not enumerated. Moreover, comparing the 2.3 million post-war immigrants still in Canada in June 1971 to the estimated net immigration of 2.0 million during the period 1946-71, one can make the rough estimate that approximately 300,000 Canadian-born and prewar immigrants emigrated from Canada over these years.

This broad analysis clearly indicates that there is a substantial gross emigration flow from Canada which offsets to some extent the impact of gross immigration. Nevertheless, net immigration has had a sizeable impact. As already noted, net immigration accounted for 22.1 per cent of the post-war population growth; at the time of the 1971 census, approximately one out of every nine Canadian residents — or more precisely 10.9 per cent — was a post-war immigrant.⁹ Utilizing only the available detailed immigration data will provide a broad indication of the impact of immigration, but the consequent results will overstate the impact; accordingly, adjustments must be made to the gross immigration data or, failing this, the limitations of using these detailed statistics should be kept in mind.

Chart 4.4

Post-War Immigrants Admitted to Canada, and
Resident at the Time of the Census, 1971



FOOTNOTES

¹ For more detailed discussion, see L. Parai, *Immigration and Emigration of Professional and Skilled Manpower During the Postwar Period*, Special Study no. 1 prepared for the Economic Council of Canada (Ottawa: Queen's Printer, 1965), pp. 95-101.

² The data are to be found in three major publications: Department of Manpower and Immigration, *Quarterly Immigration and Immigration Statistics* (annual), and Statistics Canada, *Canada Year Book*.

³ Nor do the immigration statistics include returning residents.

⁴ For a detailed comparison with Australia, see L. Parai, "International Immigration into Australia and Canada, 1946-71" (University of Western Ontario, June 1973).

⁵ The significant change in Canadian immigration regulations — and indeed in policy — whereby education, training, and skills replaced geographic origins as the main criteria for admission, became effective on February 1, 1962 and was announced in the preceding month. (Canada, *House of Commons Debates*, 1962, vol. 1, pp. 9-11). However, in many instances the available data indicate that the year 1961 marks a clear change and, accordingly, this year is taken as the appropriate one to delineate a period; moreover, there is some evidence that the change in policy did, in fact, come into effect in 1961. For example, it was pointed out in early 1961 during a debate that

... something new [in immigration regulations] has been presented to us. Recently, a new requirement was apparently set up. This was announced by the Minister [of Immigration] in Guelph only a short while ago when she spoke of immigrants with skills. To make certain that I shall not misquote her, Mr. Chairman, I have her speech and I shall read from page 8 of the text that was provided. This is what she said:

"We are doing a great disservice both to the immigrant and to our own community, when we bring to this country people who lack any kind of craft, skill or profession, who have no technical or other form of training suited to the demands of an increasing technical world.

"If I were asked what I think is a real test of what makes a desirable immigrant, I think I should have to answer that it is a matter of what he has to contribute to Canadian progress and the strength and welfare of the Canadian community. At first blush that may sound like a selfish yardstick, but I am sure that if you give it a little careful thought you will agree that it is the only honest and sensible one."

No one will disagree very much with that, but will the minister tell the committee — and she has left the country unaware of this fact — whether this is now the top priority of immigration...? (Canada, *House of Commons Debates*, 1960-61, vol. 2, p. 1904.)

The sub-periods frequently used in this analysis, therefore, are: 1946-50 — immediate post-war years of adjustment; 1950-60 — period during which geographic origin was the main selection criterion; 1961-66 — period during which the February 1962 regulations were in effect; 1967 — period during which the present point selection criteria were in effect.

Occasionally the data taken from other studies are not available for these sub-periods; and in one instance covering a 20-year span, it was more meaningful to consider equal sub-periods of 5 years.

⁶ The estimated annual emigration figures are obtained as residuals from the identity:
annual population change \equiv births minus deaths plus immigration minus emigration.

The population estimates for intercensus years that are made in Canada use the available statistics of Canadian residents immigrating to the United States and the United Kingdom which are provided by these two countries; and at the time of the census, the difference between the estimated and enumerated population is apportioned over the preceding intercensus years. Accordingly, the estimated emigration figures include the residual errors of estimate, as well as the net movement of residents which consists of emigration to other than the United States and the United Kingdom minus all residents returning from abroad. (A more detailed description of the construction of these population estimates appears in the *Canada Year Book*, 1970-71, p. 242.)

⁷ For a brief summary of these changes in the immigration regulations of the United States, see P. Rodino, "New Immigration Laws in Retrospect", *International Migration Review*, 2:56-61; more detailed discussions can be found in "U.S. Immigration: Policies, Procedures, Problems", *International Migration Review*, 4:3-89; "The New Immigration", *Annals of the American Academy of Political and Social Science*, 367.

⁸ Plus, of course, residual errors of estimate and, accordingly, it is improper to place much significance on any yearly figure.

⁹ This compares with 8.3 per cent in 1961. It may likewise be noted that 15.3 per cent of Canadian residents were immigrants at the time of the 1971 census, as compared with 15.6 per cent in 1961.

THE ECONOMIC IMPACT OF POST-WAR IMMIGRATION INTO CANADA

Immigration into Canada continues to be the subject of a considerable amount of research, and there is a growing volume of literature on both the immigrants themselves and their many effects on Canada.¹ Only a segment of this broad subject and extensive literature is analysed in the following pages. The purpose of this chapter is to review, and hopefully to extend a bit further, the existing knowledge of the economic impact of post-war immigration into Canada. The approach and analytical framework to be used, as has already been noted, is that given in Chapter 3.

THE MAGNITUDE AND COMPOSITION OF IMMIGRATION INTO CANADA

The size and composition of post-war immigration into Canada have already been noted in the preceding chapter. Annual post-war immigration into Canada averaged over 135,000 per year and has fluctuated considerably, as was shown in Chart 4.1, varying from a low of 64,000 in 1947 to a high of 282,000 in 1957; Europe continues to be the predominant source of immigrants but, especially since 1961, a growing proportion of migrants are coming from Asia, Africa, the Middle East and the West Indies. These changes can be explained in terms of the determinants of immigration that were outlined in Chapter 3.

Fluctuations in Annual Immigration

The inverse relationship between immigration into Canada and the Canadian unemployment rate has been considerably researched and is well documented.² It has been estimated, for example, that on average an increase of one per cent in the rate of unemployment will result in a decrease of about 30,000 immigrants in the following year.³ This kind of relationship can be expected for several reasons.

In a situation where migration is unrestricted, increased unemployment in the country of destination represents fewer job opportunities and, therefore, a higher cost of migrating since a worker may now expect to wait a longer time before finding employment. Accordingly, the expected net returns from migrating are reduced and fewer workers will migrate.

Immigration policy further accentuates the response of immigration flows to changes in the unemployment rate. As noted in Chapter 2, there have been references over the years to admitting immigrants according to the country's absorptive capacity; however, neither the Immigration Act nor subsequent

regulations have ever stipulated annual (or long-run) target figures for immigration. This is not surprising. The concept of absorptive capacity – just like that of an optimum population – is a dynamic one; absorptive capacity will depend upon the growth and available amounts of technological knowledge and other factors of production.⁴ Consequently, considerable emphasis has been placed upon filling the short-term requirements of the domestic labour market. The present selection procedure allots one-fifth of the total assessment units to occupational demand and employment opportunities in the area of destination, for example, and in earlier years similar attempts were made to encourage migrant workers to come to Canada when job opportunities were plentiful and to discourage them when unemployment rose;⁵ this procedure, often referred to as the “tap on and off” policy, could be expected to have had an influence on annual immigration, as well as on its composition.⁶

A number of other influences have contributed demonstratively to the observed fluctuations in annual immigration. Immigration to Canada generally increases as real income in Canada rises relative to that in other countries; although not as consistently, immigration to Canada also decreases as unemployment rates in the sending countries decrease.⁷ And very clearly, the large immigration into Canada in 1957 was to a significant extent the result of political influences, namely the Suez Crisis and the Hungarian Revolution which occurred late in the preceding year.⁸

Composition of Immigration into Canada

The composition of immigration into Canada likewise can be explained as the net result not only of various general influences, but also of immigration policy. As has already been postulated, voluntary migration is undertaken by individuals and families to improve their well being; consequently, immigrants to Canada could be expected to come from economically poorer and/or socio-politically less amenable countries and, unless prevented by poverty, immigrants from the populated and poor countries should predominate. This potential inflow of immigrants, however, is considerably altered in size and composition by immigration policy.

Canadian post-war migration policy and regulations prior to 1962 especially favoured immigration from the United Kingdom, France and the United States, and to a lesser extent from the other European nations; immigrants from Asia and Africa were virtually excluded.⁹ This racial discrimination was formally removed by changes in immigration regulations which were officially announced in early 1962; however, immigration offices have only slowly expanded into countries outside of Europe and North America. Not surprisingly, therefore, the greater proportion of immigrants have come from Europe and the United States, and only in the past decade has immigration from Asia, Africa and the Middle East become significant. Furthermore, this concentration of immigrants from a relatively few areas has been reinforced by the tendency of earlier immigrants to encourage their relatives and friends to migrate to Canada, and the provisions for sponsorship that have existed in the immigration regulations over the years have enabled this tendency to exert its effect quite strongly.¹⁰

In terms of age and occupational characteristics, the composition of post-war immigrants to Canada resembles that of recent immigrants to most other countries. As will be described in detail in the following section, they have tended to be

relatively more concentrated among the working age groups, and to be increasingly more in the professional, technical and skilled occupations.

THE ECONOMIC IMPACT OF IMMIGRATION INTO CANADA

Since considerable detailed data exist on the labour force characteristics of immigrants to Canada, and the impact of immigration on the domestic labour force is the easiest to describe, it is not surprising that this particular aspect of immigration continues to receive a good deal of attention. In contrast, comparatively little is known about the formation of technology and entrepreneurial skill, and hence the study of the impact of immigration on them has been scant. Varying amounts of research have been conducted on the other impacts of immigration into Canada. This variation in research emphasis is reflected in the coverage contained in this section.

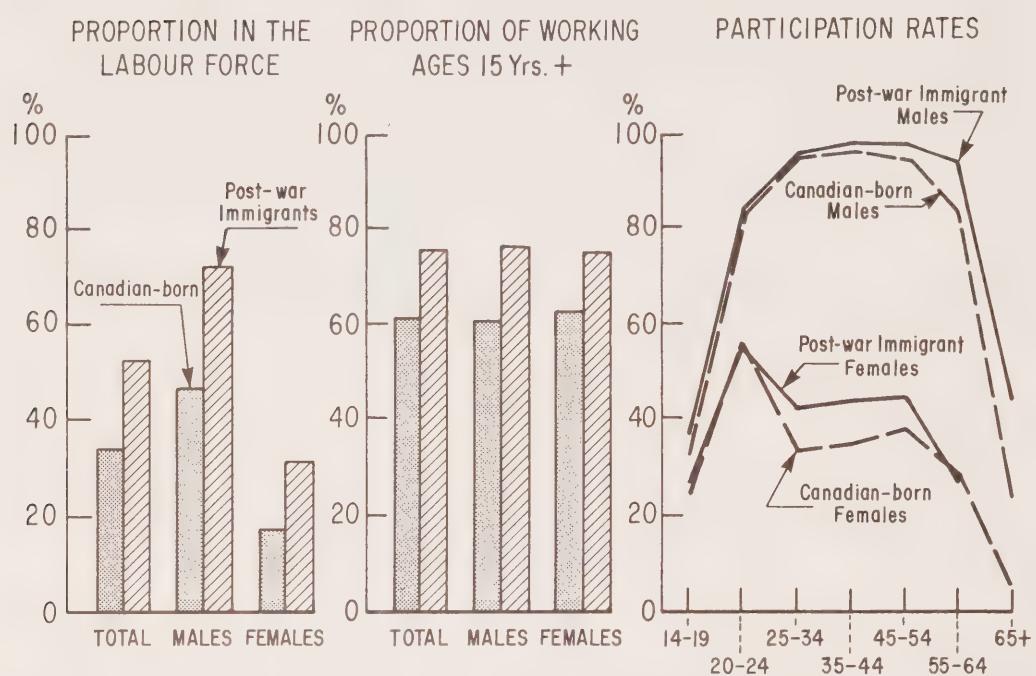
Labour Force¹¹

Since there have been proportionately more workers among post-war immigrants than among Canadian-born, immigration has increased the ratio of workers to total population in the country. As shown in Chart 5.1, slightly more than half of all post-war immigrants intended to enter the labour force, whereas just under one-third of all Canadian-born residents were in the labour force at the time of the 1961 census.¹² This greater concentration of workers among immigrants is largely accounted for by two factors: the greater concentration of immigrants within the working age groups and the higher participation rates among immigrants within each age group. Approximately three-quarters of all immigrants at the time of their arrival were in the working age group of 15 years and over, whereas among the Canadian-born residents enumerated at the 1961 census, just over three-fifths were in this age group; furthermore, as shown in Chart 5.1, the participation rates within specific age groups are higher among immigrants.¹³

Although during the period 1947-72, over 1,897,000 immigrants arrived who intended to join the labour force, during these same years a considerable number of residents emigrated from Canada; it is of interest to know how much in net terms these migrant workers contributed to the growth of the Canadian labour force. The estimated components of the increase in the labour force are shown in Chart 5.2.

Ignoring the immediate post-war years — which should be regarded as a period of adjustment and therefore atypical, and for which comparable data are not readily available — the labour force increased over the period 1951-71 at an average annual compound rate of 2.52 per cent from 5,195,000 to 8,766,000. The absolute increase of 1,809,000 among male workers only slightly exceeded that of 1,762,000 among females; however, given the smaller size of the female labour force, the number of women workers increased at an average annual compound rate of growth of 4.57 per cent, as compared with 1.77 per cent among male workers. Estimated net immigration accounted for just over one-quarter of the increase in the total labour force during the period 1951-71; natural increase accounted for three-fifths, and changes in participation rates for one-eighth. But a marked difference is observed when comparing the components of increase among the time periods and

Chart 5.1
Selected Characteristics of Post-war Immigrants
1946-72 and Canadian-Born, 1961 Census⁽¹⁾



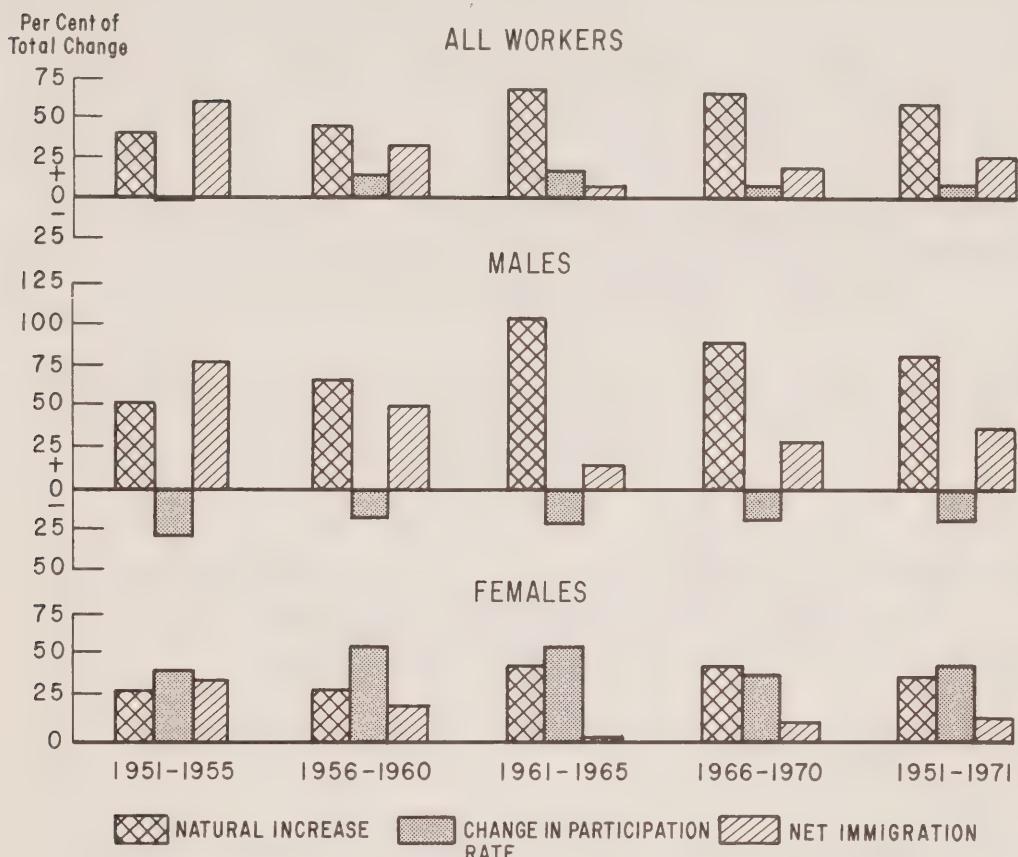
⁽¹⁾ Except participation rates, which are for post-war immigrants having arrived prior to 1967, and Canadian-born sampled in February, 1967.

SOURCE: Table A.5 and footnote 13 of Chapter 5

between male and female workers. Over three-fifths of the increase during 1950-55 was from estimated net immigration, as compared with less than one-tenth during the years 1961-65; during the initial period, the natural increase in the labour force was low since the new entrants were those born during the recession and war years when birth rates were lower, whereas in recent years those born during the post-war baby boom were beginning to enter the labour force. Among men during the whole period, estimated net immigration contributed over two and a half times as much to the growth of the labour force as compared with that of women; whereas two-fifths of the growth of the male work force came from net immigration, only about one-seventh of the increase in women workers was due to estimated net immigration. Differences in the behaviour of participation rates explain why estimated net immigration contributed so much more to the growth in the male labour force. Whereas among men decreases in participation rates often considerably offset increases arising from natural growth and net immigration, among women substantial increases in participation rates augmented the growth in the labour force resulting from these other sources; it is estimated that changes in participation rates reduced the male labour force by 375,000, and increased the female labour force by 836,000, over the entire period. Quite clearly, the impact of immigration has been

Chart 5.2

Estimated Components of the Growth of the Canadian Labour Force,
Annual Averages, 1951-71



SOURCE: Table A.6

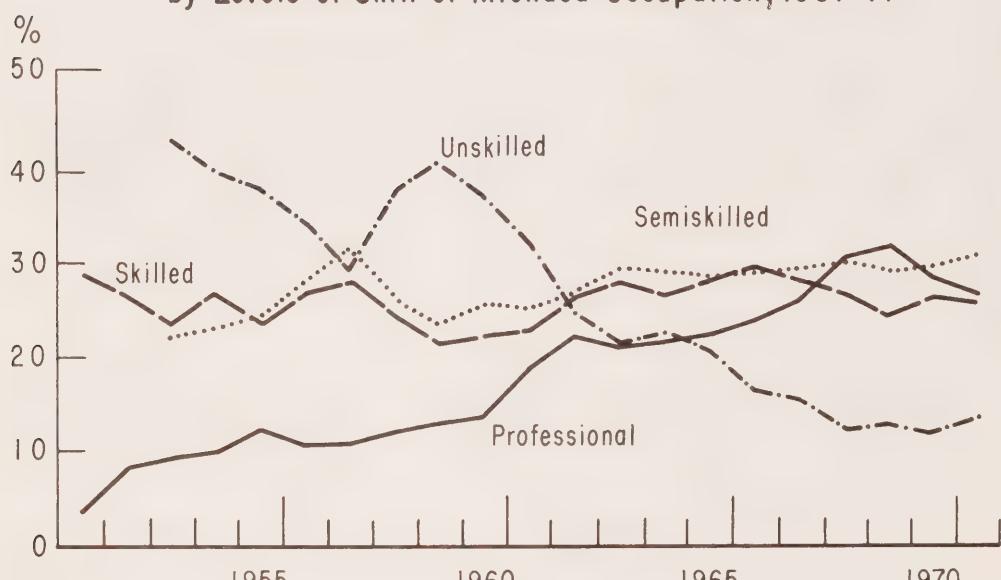
significant; although in the absence of immigration the participation rates may have increased further among women and fallen less among males, it seems most likely that in the absence of immigration the labour force would have increased by very much less, especially during the earlier years under study.

It is also of considerable interest to know which occupations and industries these immigrants augmented, and in which regions they settled. Unfortunately, the published immigration statistics may not provide very accurate information, especially on the first two of these aspects; census data give much more accurate and meaningful information.

Although immigration statistics provide considerably detailed data on the intended occupations of immigrants — and thereby indirectly the industrial sector which they intend to augment — it is of utmost importance to realize that these are *intended*, and not actual, occupations; language difficulties and licensing and certification regulations, for example, may preclude an immigrant worker from

obtaining recognition of his qualifications and thereby may prevent him from taking up employment in his intended occupation.¹⁵ Therefore, it would appear to be inappropriate to place too much emphasis on the specific and detailed intended occupational data provided in immigration statistics. Nevertheless, available evidence also indicates that those immigrants who were not in their intended occupations were doing related work.¹⁶ This would indicate that broad groupings of occupations are appropriate for analysis, and that quite likely the results provide a reasonable estimate of the general skills and training being utilized by these immigrant workers after their arrival. Accordingly, immigrant workers classified by broad skill groups are shown in Chart 5.3.

Chart 5.3
Percentage Distribution of Immigrant Workers,
by Levels of Skill of Intended Occupation, 1951-71



SOURCE: Table A.7

Over two-fifths of all post-war immigrants have intended to enter either professional and technical or skilled occupations; just over one-quarter have been unskilled workers. More significantly, some trends are clearly evident which indicate that the skill content of immigrants has increased over the years. Professional and technical workers have increased from less than 10 per cent of all immigrant workers to approximately 30 per cent, whereas the unskilled have declined from over 40 per cent to just over 10 per cent. The number and proportion of managers has steadily increased and that of skilled primary industry workers has diminished; the proportions of skilled and semi-skilled workers have not altered greatly. The greatest change in these major trends occurred early in the last decade and again in 1967; it may be recalled that these were both times when immigration regulations were changed to put increasing stress in the selection criteria on the education, skills and qualifications of applicants wishing to enter Canada as immigrants.¹⁷

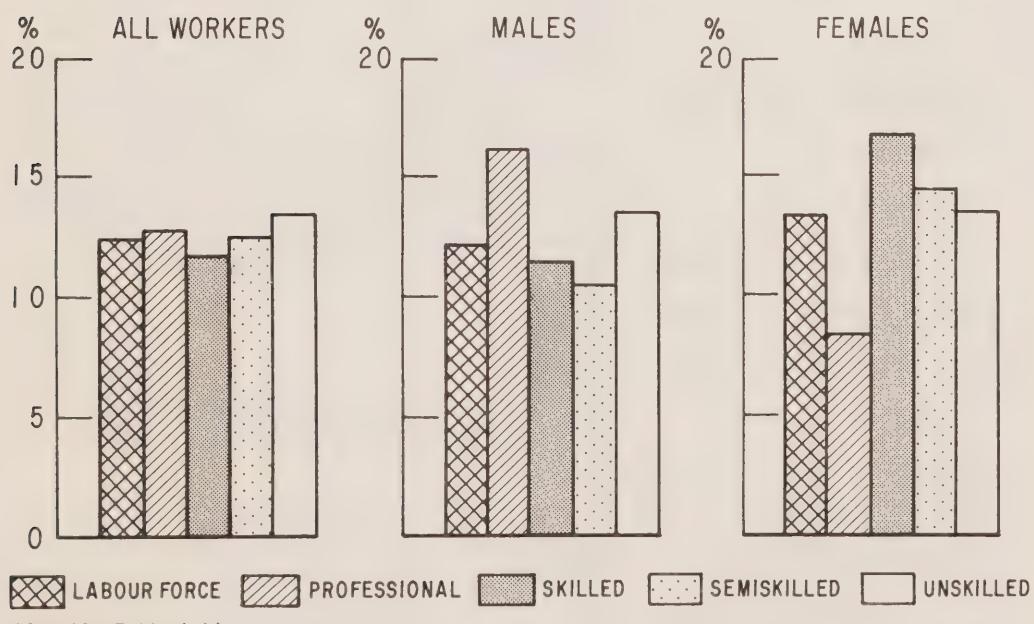
Since some of these migrants subsequently emigrate from Canada and some take up occupations other than that which they intended to enter at the time of their arrival, the actual contribution which the remaining immigrants have made to the composition of the labour force can only be ascertained by analysing the occupations that they have in fact filled, and the proportion that they have contributed to the growth of those occupations over a given period of time. Census data provide such information; but with the 1971 results still not available, only the period 1951-61 can be so analysed.

It is important to note, however, that this analysis does not set out the actual impact of net immigration because the net migration of Canadian-born and prewar migrants are excluded; moreover, even if the analysis is limited to the impact of (net) post-war migrants, it should be kept in mind that these migrants have altered the occupational composition of the labour force not only through the skills and training which they have brought and subsequently acquired, but also through the increased demand for labour which they have generated by their demand for goods and services.¹⁸

At the time of the 1961 census, as shown in Chart 5.4, one-eighth of the labour force consisted of post-war immigrants; this ratio was slightly higher among females than males, and slightly above average concentrations occurred among both the professional and technical workers and the unskilled.

Chart 5.4

**Post-War Immigrants as a Proportion
of the Canadian Labour Force, Census, 1961**



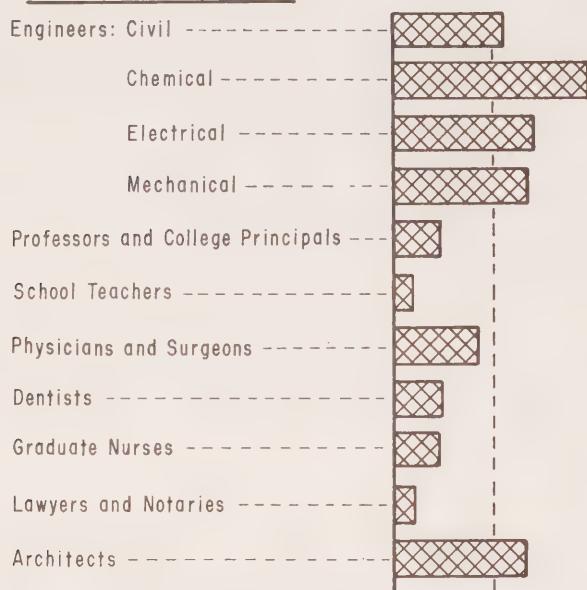
SOURCE: Table A.11

In terms of the contribution of post-war immigrants to the growth in specific occupations over the intercensus decade 1951-61, comparable data exist only for some occupations. As summarized in Chart 5.5 the number of post-war immigrants

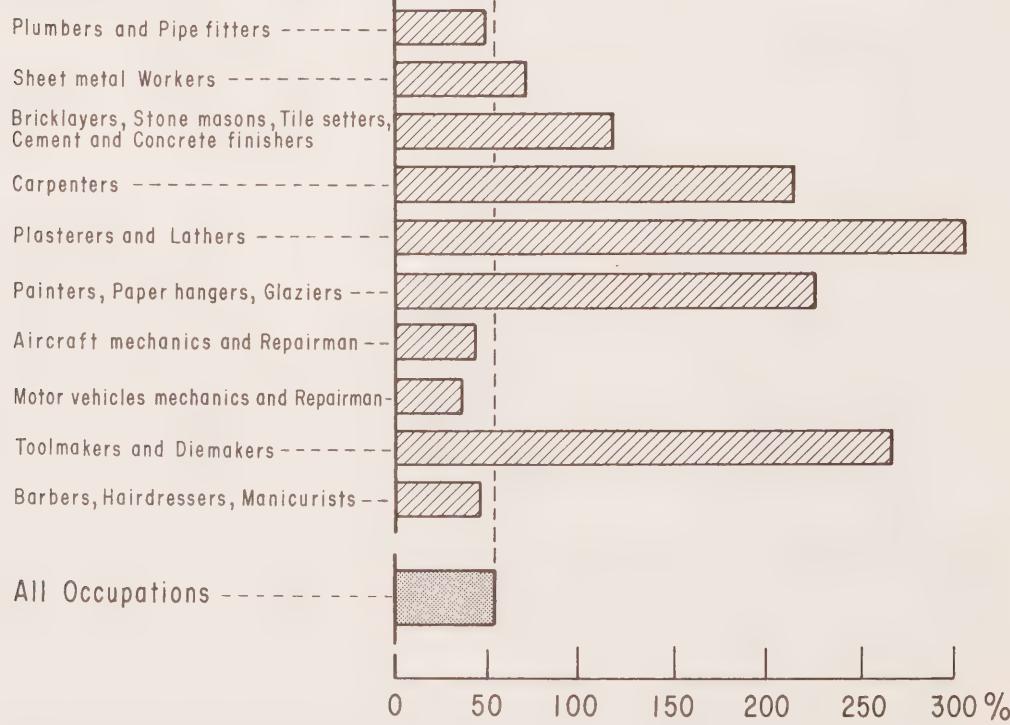
Chart 5.5

Contribution of Post-War Immigrants to Net Changes During the Intercensus Decade 1951-61, by Selected Occupations

Professional and Technical



Skilled Workers

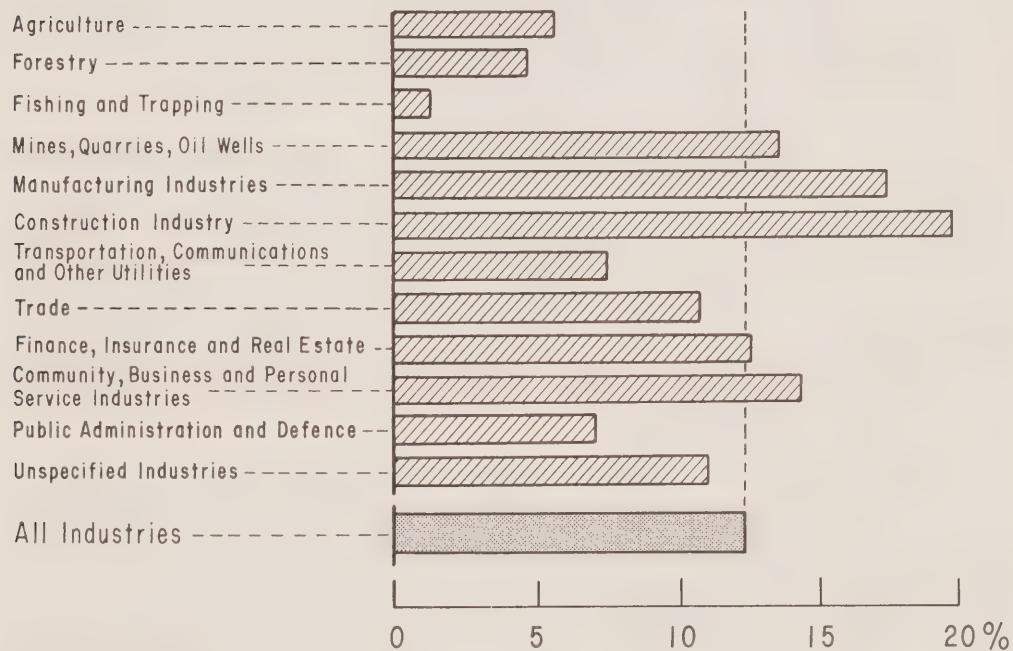


SOURCE: Table A.12

in some occupations — particularly skilled construction workers — exceeded the intercensus increases in them; since in these occupations the migrants' contribution greatly exceeded the average contribution to all occupations, it would appear that, unless offset by movement out of other occupations, without immigration there would have been a decline among such workers as chemical engineers, plasterers and lathers, toolmakers and diemakers, and painters, paperhangers and glaziers.

As one might readily surmise from the selection of occupations just considered, immigrant workers were more predominant within certain industries. This is shown in Chart 5.6. Above average concentration of post-war immigrants are found in the construction and manufacturing industries; in contrast, the lowest concentration was in the primary sector.

Chart 5.6
Post-War Immigrants in the Canadian Labour Force,
by Major Industry, Census 1961



SOURCE: Table A.13

The above figures indicate that immigration was particularly important in providing for the growth of some critical occupations and industries. Without immigration, it would appear that critical labour shortages would have developed in the construction and manufacturing industries, and the economic expansion of the period may have been seriously curtailed. More rigorous analysis of this possibility would require a detailed study of the occupational shortages that existed over this period, and the extent to which migrants contributed relatively more to the supply of workers than to demand. Since this situation has been studied in much greater detail elsewhere, it is sufficient to note the results which were reached:

In the 10 years after World War II, the Canadian economy expanded steadily. The rate of expansion was, however, not even and the decade was punctuated by periods of particularly rapid economic growth. It was during these periods of accelerated activity in nearly all sectors of industry that shortages of skilled and professional manpower became most widespread and most acute . . .

The first five years of the decade were characterized by the conversion of the economy from a wartime to a peacetime basis. Shortages did become widespread and acute in certain occupations during this period. The large numbers of graduations from Canadian universities as a result of heavy veteran enrolment helped to increase the supply of professional manpower at this time and, to some extent, the skills acquired by some workers during the war helped to ease certain shortages. But, in general, the shortages of skilled tradesmen were prolonged and fairly intense; and apprenticeship and other training programs in Canada did not begin to meet the requirements that existed during these years.

In the second five years, on the other hand, immigration of large numbers of skilled workers greatly alleviated the shortages in many trades, and except for short periods and in specific occupations, the acute shortages of the preceding five years did not occur. Professional workers, however, were in very short supply. University graduations had dropped from the high level of 1950-51 and demand for professionals was still rising. Furthermore, immigration did not, as in the case of skilled tradesmen, help to alleviate the shortages to any marked degree.¹⁹

Without the results of the 1971 census, the impact of immigration during the past decade on the growth of the labour force by occupations and industries can only be roughly approximated.²⁰ These estimates are shown in Chart 5.7. Although estimated net immigration was numerically largest among craftsmen and production process workers and professional and technical workers, in terms of relative impact, the estimated net immigration of labourers represented 40 per cent of the total increase in their numbers; in comparison, estimated net immigration accounted for 34.9 and 23.6 per cent of the increases among the craftsmen and professional workers respectively.²¹

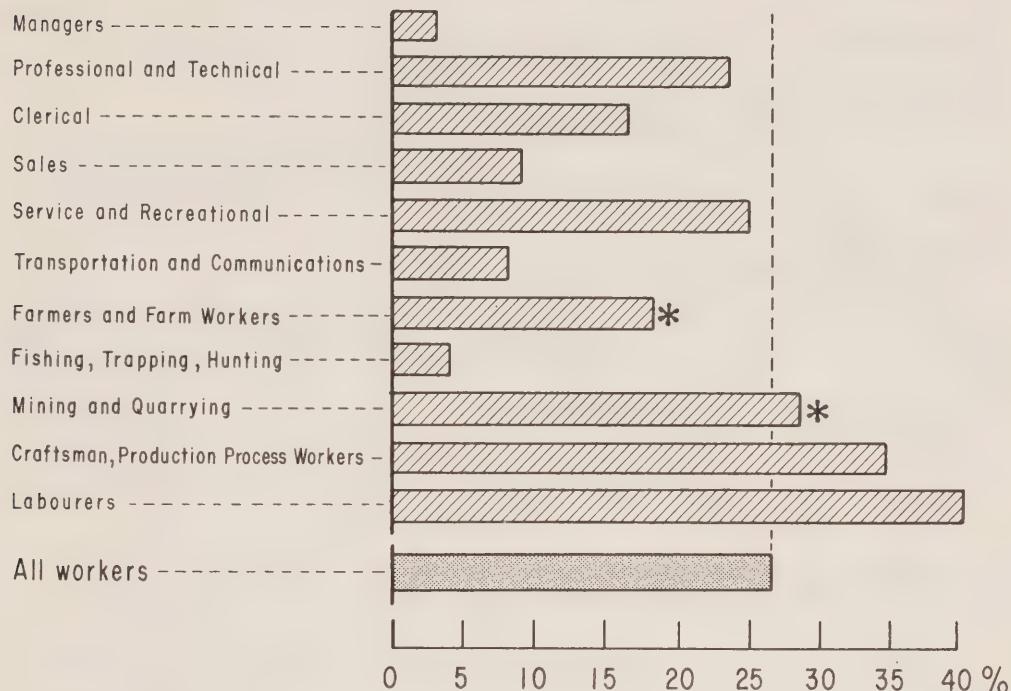
A ready indication of whether immigrant workers may have alleviated job shortages during the past decade may be obtained by comparing the occupational distribution of immigrants to the rates of unemployment among broad occupational groups. This latter information is set out in Chart 5.8. The lowest rates are among office and professional workers and the highest rates among labourers; thus the evidence at this aggregative level is mixed since estimated net immigration made among the highest contributions to the growth of both these occupational groups. More detailed analysis is obviously needed.

Three recently completed studies provide some additional information on the contribution which immigrant workers have made to alleviating labour shortages.²² They point out the difficulties of attempting to ascertain the extent to which labour shortages have been alleviated by immigration, and indicate that immigration has likely continued to meet existing specific labour requirements. It is concluded that

from 1957 to 1966 . . . Few widespread shortages developed for skilled tradesmen, in spite of the fact that the employment of tradesmen during this period increased by about 80 per cent. One of the reasons for the lack of severe shortages is the 160,000 tradesmen contributed by net immigration. Net immigration of professional and technical workers amounted to about 56,000. However prolonged shortages of

Chart 5.7

Contribution of Estimated Net Immigration to the Increase in the Labour Force, 1961-71, by Major Occupational Groups



*NET IMMIGRATION AS PERCENT OF DECLINE IN GROUP.

SOURCE: Table A.14

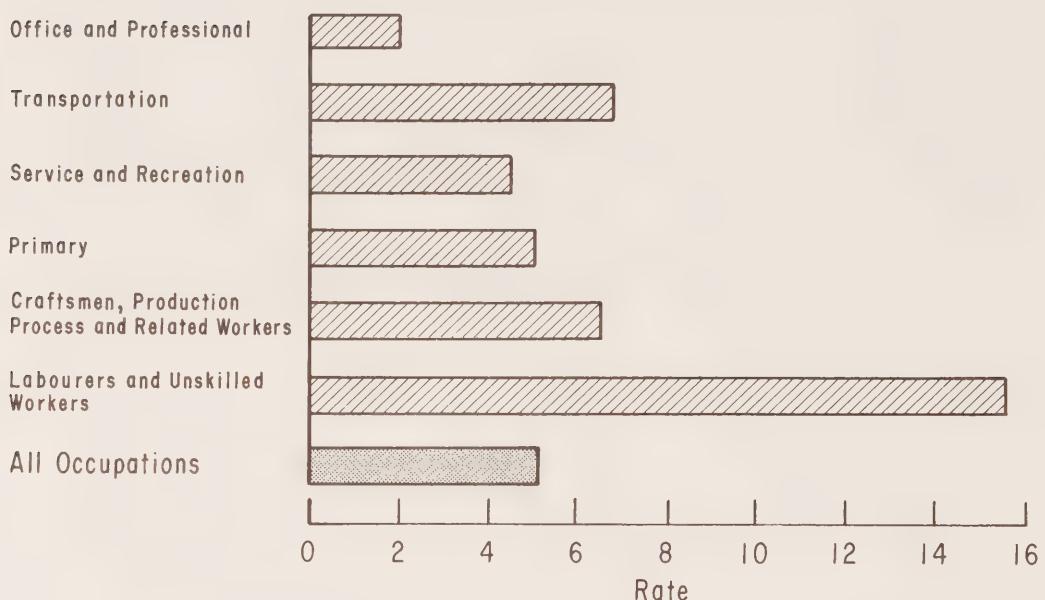
professionals and semi-professionals persisted, even during the years of extremely high unemployment in the late 1950s and early 1960s.²³

But in the period since 1967, shortages have tended to exist in specific job requirements and locations rather than within broad occupational groups; unfortunately the available data are often too aggregative for the analysis that is required. However, it is noted that

In several shortage occupations there was a large net influx of immigrants. For example, during the 1967-71 period there was a net immigration of about 15,000 tailors and furriers, 25,000 machinists, 15,000 mechanics, 14,000 domestic servants and 8,000 nurses.²⁴

Looking at the statistical relationship between (monthly) immigration and long-term job vacancies during the past two years, a positive relationship is found;²⁵ nor is this surprising, since job vacancies and unemployment rates are inversely related and, as has already been noted, a negative relationship between immigration and unemployment is now well documented. Further indirect evidence that immigrants may be filling labour shortages is given by the length of time which is required by migrants to obtain employment. In a study of a sample of immigrants who arrived

Chart 5.8
Average Annual Rates of Unemployment, 1961-71,
by Major Occupation Groups



SOURCE: Table A.15

in 1969, it was found that

The average period between arrival and starting on the first job was four weeks for all immigrants. About half the immigrants started to work in less than 1.5 weeks after arrival.

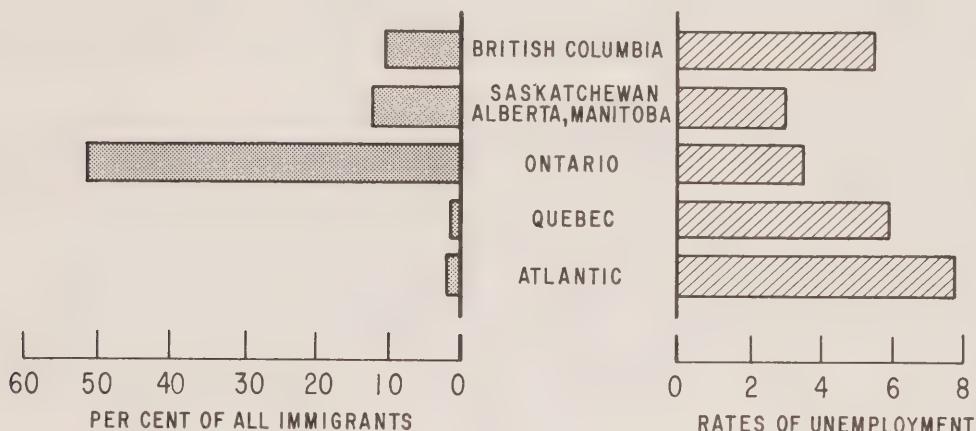
A quarter of all immigrants had pre-arranged employment, and nearly all of them were working within two weeks of their arrival.²⁶

Turning now to the regional impact of immigration, it may be noted that the regional distribution of migrant workers has tended to be fairly constant over the post-war period. As shown in Chart 5.9, about half of all immigrant workers have intended to reside in Ontario, and British Columbia and the Prairies were each the intended destination for another fifth of immigrant workers; the actual distribution is similar to the intended distribution.²⁷ Moreover, comparing the distribution of residence to the regional rates of unemployment, it is seen that international migrants have settled more predominantly in those areas where unemployment has been the lowest; accordingly, it would appear from this rather general analysis that international migration serves also to alleviate geographical labour shortages.

Lastly, it may be noted that it was quite popular not so many years ago to compute the costs of education and training — that is, the value of human capital — which is embodied in these migrants. Thus it has been found, for example, that

the replacement cost (in 1961 prices) of the human capital embodied in the form of university education within these immigrants arriving from all countries during the

Chart 5.9
**Distribution of Post-War Immigrants
 by Province of Intended Destination, and Average Annual Rates
 of Unemployment by Provinces, 1946-71**



SOURCE: Tables A.16 and A.18

period 1953-63 is almost \$532 million. This is the estimated value of the additional university instruction, books and facilities which would have been required to duplicate within Canadians (having high school education and the ability), the university education and training possessed by these immigrants. Moreover, this education also would have required an estimated additional \$455 million cost to the economy of foregone earnings (or production) by such Canadians while they were devoting their time to study.²⁸

Or a much broader view could be taken wherein all education is taken into account. Thus during the intercensus years 1951-61,

The net *education value* of immigrants less Canadian-born emigrants for the decade ranges between \$4,167 million and \$4,920 million according to whether the high or low estimate is used. The average of these two extremes, \$4,544 million, is nearly 52 per cent of the monetary capital inflow to Canada during this 10-year period. One-tenth of this average net value (\$454 million), is 102 per cent of new issues of Canadian securities during 1960, and 70 per cent of total foreign, direct investment in Canada for the same year.²⁹

And if the costs of having raised these immigrants are taken into account,

The aggregate replacement cost-outlays represented by net immigration to Canada during the intercensus decade 1951-61 are more than \$15 billion. Replacement cost value of net emigration of Canadian-born to the United States is between \$2.25 billion and \$4 billion. The net gain to Canada from total migration is therefore between \$11.2 billion and \$12.8 billion or, taking the average, \$12 billion. This total equals 137 per cent of the aggregate net capital inflow over the 10-calendar years 1951-60. If we take one-tenth of this figure as the annual average worth to Canada of

net migration (that is, \$1.2 billion), it equals 186 per cent of all direct foreign investment in the country during 1960 — the year when direct investment totalled \$645 million (the highest for any year of the preceding decade). The annual average of \$1.2 billion also equalled 3.3 per cent of the Gross National Product for 1960.³⁰

This human capital inflow clearly has been impressive, and would undoubtedly be estimated to have been even greater during the most recent decade during which the level of education and training among immigrant workers has increased substantially, and the emigration from Canada to the United States has decreased sharply.

Although the inflow of highly educated and skilled workers represents such large sums of human capital, it has not been accepted as an unquestionable benefit. Thus, for example, the large proportions of university faculties that are non-Canadian have received increasingly more vocal criticism;³¹ the rapidly increasing annual numbers of graduates emanating from Canadian universities, together with growing inflows of immigrants, have brought forth expressions of concern about inadequate job opportunities for certain professional workers.³² These trends in net migration and degrees awarded are illustrated in Chart 5.10 for a few selected professional occupations. Gross increments to supply — that is, the recorded net immigration and degrees granted — has at least doubled during the past decade for these occupations; demand likewise increased substantially over this period, as is evidenced by the increases in salaries that were experienced.³³ The rates of unemployment among professional and technical workers (shown in Chart 5.8) have not changed significantly; of course, this would not indicate that some workers have had to accept less preferred types of employment.

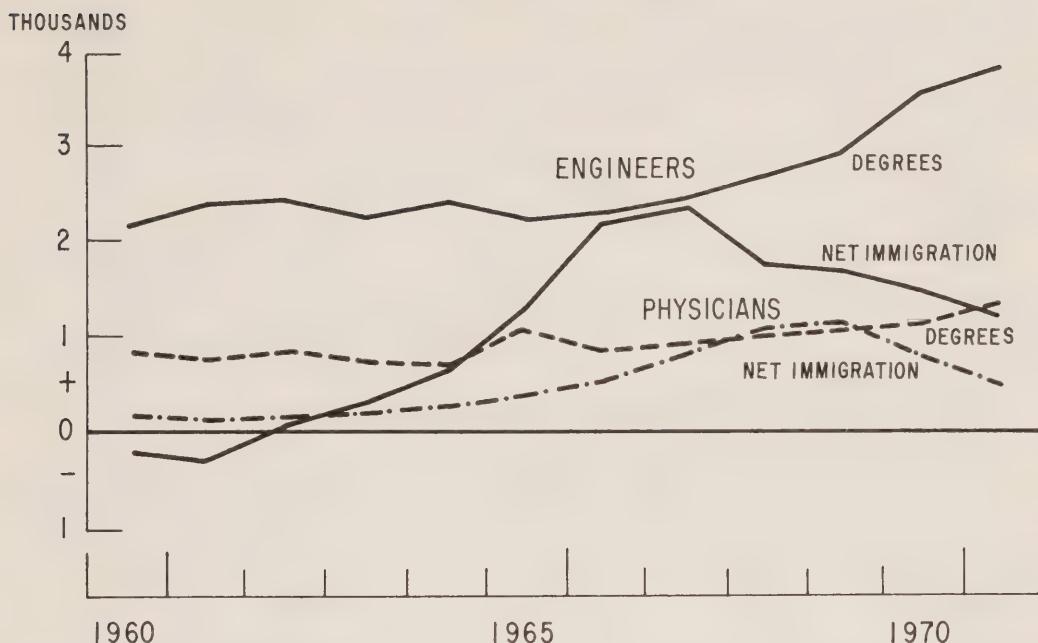
Similarly, the inflow of highly skilled workers has been viewed as a form of manpower policy which considerably alters the opportunities available to the indigenous worker. It has been stated that

immigration policy . . . consists of increasing the supply of immigrants with particular skills when the demand for that skill tends to raise the relative wage of the skilled worker. The consequence of that policy is to reduce the inducement that is offered to members of the labour force in Canada to enter an industry or to acquire a skill, since foreign substitutes are provided as the acquisition of that skill or status becomes relatively profitable. It also reduces the need for public investment in training for that particular skill and thus reduces or eliminates the opportunity that local labour has to obtain the skill in question and the higher relative income that it implies. This kind of immigration policy has been on a sufficiently large scale in Canada to have very much wider repercussions than merely meeting a shortage. Indeed a good case could be made that it has markedly affected the opportunity and terms on which some young Canadians enter the labour force. Encouragement to this kind of opportunity-reducing immigration policy should not be given under the guise of meeting “bottlenecks” until much fuller study has been made.³⁴

Indeed, immigration has an effect on both economic growth and income distribution, both of which are discussed somewhat later.

This analysis thus far has examined the impact of those immigrant workers who are recorded in the immigration statistics and, if still residing in the country, appear in the census data. But there are two other types of migrant workers about whom little is known and, consequently, little can be said. They are the seasonal workers

Chart 5.10
Net Immigration and Degrees Granted,
Selected Professions, 1960-71



SOURCE: Table A.19

and, especially since the beginning of 1973, the non-immigrants who are given temporary work permits.

Seasonal workers have largely consisted of agricultural workers, most frequently from Mexico and the Caribbean, whom Canadian employers could recruit under specific wage and employment conditions for specified short terms; they typically are used during harvest time. Non-immigrants who are given work permits are presumably workers for whom a short-term need exists, and who are not interested in settling in this country.

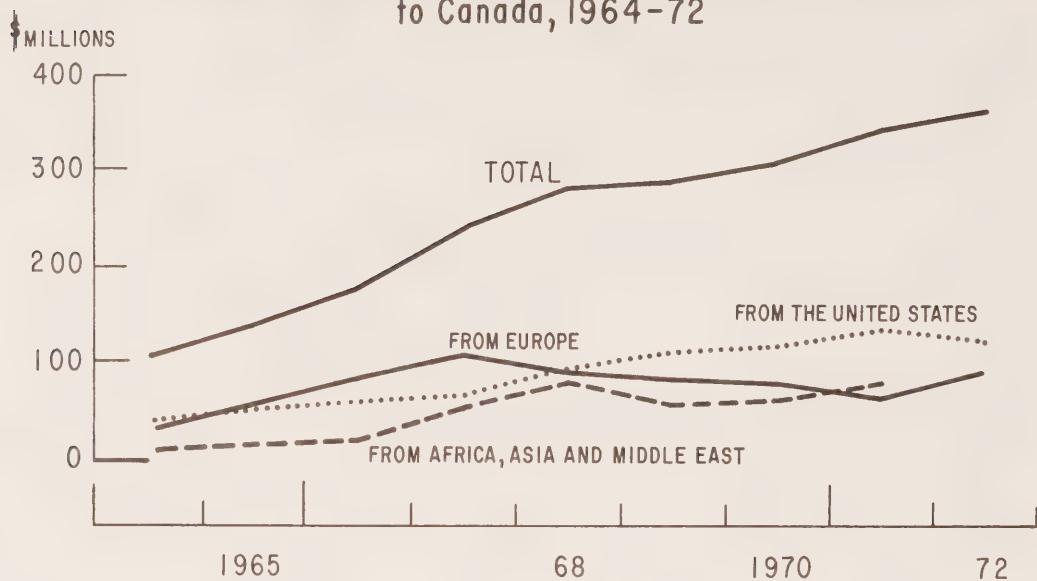
Capital

Immigrants often bring capital funds with them. As summarized in Chart 5.11, funds either brought or transferred by immigrants have increased considerably over the past years. During the last three years, for example, an annual average of one-third of a billion dollars has come in with immigrants; this represents an average of \$2,580 per migrant, or \$4,010 per migrant worker. Approximately two-fifths of these funds have come from the United States, and another one-quarter from Europe; and with immigration from Asia, Africa and the Middle East having grown during the past decade, funds from these areas have likewise increased.

Remittances made by immigrants residing in this country to some extent offset

Chart 5.11

Funds Transferred or Brought by Arriving Immigrants to Canada, 1964-72



SOURCE: Table A.20

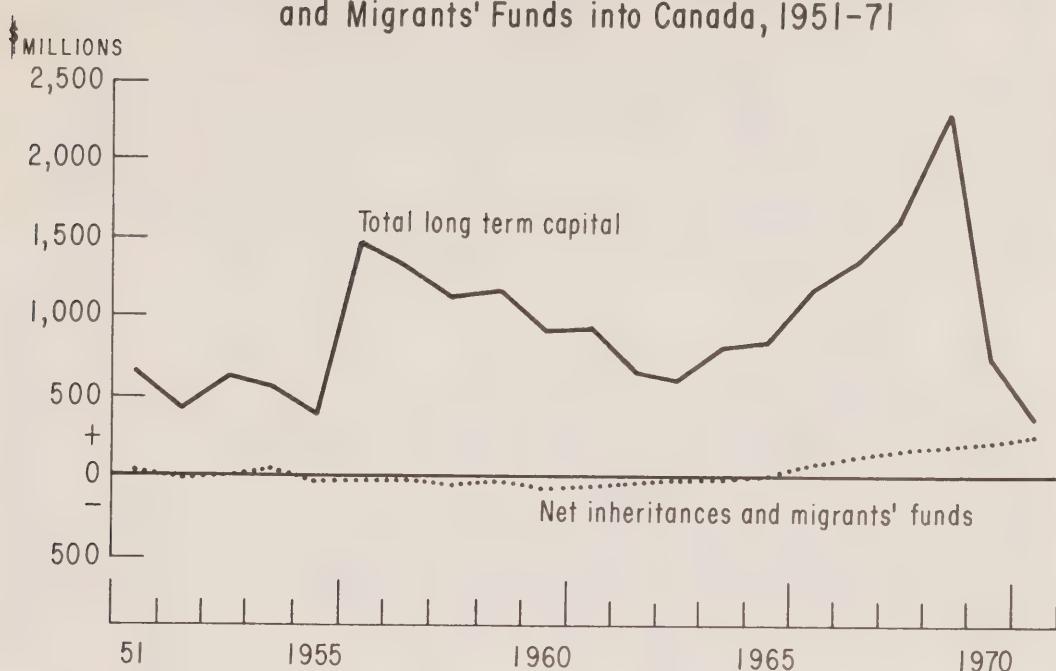
these inflows, but detailed data comparable to that in the above chart are not available. However, within a sample of immigrants who arrived in Canada in 1969, an average of \$456 per immigrant was remitted abroad during their first year of residence, and another \$500 during their second year.³⁵

A broader view for a longer period can be obtained from balance-of-payments statistics. The long-term capital inflows, together with the current account transfer payments arising from "inheritances and migrant funds", are summarized in Chart 5.12. Although over the entire period inheritances and migrants' funds accounted for a total net inflow of close to one-half billion dollars or an annual average of \$21 million, only in the latter one-third of the period has there been a net inflow; during the years prior to 1964, there was an average annual net outflow of \$35 million.

By far the larger inflow of funds has been on the capital account. Over the entire period, an annual average of almost one billion dollars came into Canada in long-term capital. Moreover, comparing the above chart with Chart 4.1 in a previous chapter, it is seen that during the two periods of especially large capital inflows — 1956-59 and 1966-69 — immigration was also relatively large; the one other period of comparatively large immigration — 1951-53 — was not a period of large capital inflows. This is not evidence, of course, that immigration was the underlying cause of these capital inflows, although over the past decades capital inflows and immigration have occurred together.³⁶ It has been argued that tariffs, by reducing the volume of international trade, encourages the movement of productive factors.³⁷ Whatever the cause and effect relationship, the above analysis indicates that immigration and capital inflows have taken place together.

Chart 5.12

**Long-term Capital Inflows and Net Transfers of Inheritances
and Migrants' Funds into Canada, 1951-71**



SOURCE: Table A.21

Entrepreneurship and Technology

Because the elements which determine the supply of entrepreneurship and technology are not known, very little has been written about the impact of immigration on them. At most, there has been the infrequent litany of names of immigrants in Canada who have become leaders in commerce and manufacturing.³⁸ Or alternatively, one can cite the large number of immigrants who are intending to enter managerial occupations; at the time of the 1961 census, for example, 10 per cent of those in managerial occupations were post-war immigrants, and during the period 1961-70, 2.7 per cent of all arriving migrant workers intended to take up managerial jobs.

Consumption³⁹

Not a great deal of detail is known about the consumption patterns of immigrants in Canada. An analysis of the data from migrants collected in the 1969 Family Expenditure Survey essentially shows that the consumption patterns of recently arrived immigrants who were living in major urban centers differ significantly from those of the indigenous population, but that these differences decrease over time. The relevant data are summarized in Table 5.1.

Looking first at the relationship between incomes and expenditures, it is

TABLE 5.1
CONSUMPTION EXPENDITURE PATTERNS IN 1969, OF IMMIGRANTS BY
PERIOD OF ARRIVAL AND CANADIAN BORN

Commodity Groups	Immigrants who arrived in					Canadian Born
	1966-68	1961-65	1956-60	1946-55	1901-45	
Average total income (dollars)	6,013	8,233	7,659	7,399	4,484	6,551
Average total expenditure (dollars)	6,520	7,575	7,247	7,102	4,258	6,224
Percentage Distribution of consumption Expenditures by major Commodity Groups						
Shelter ¹	20.5	21.7	19.6	18.6	22.1	19.6
Furnishing and equipment ²	3.3	4.3	3.7	3.2	2.0	2.9
Household operation ³	4.2	4.6	4.1	4.3	4.6	4.5
Clothing	6.3	7.6	8.5	8.5	5.5	8.4
Food ⁴	21.5	22.0	23.9	22.8	24.9	23.2
Auto purchases ⁵	7.8	5.0	3.9	3.3	3.0	4.3
All other	36.4	34.8	36.3	39.3	37.9	37.1
Estimated (partial) Expenditure Elasticities ⁶						
Shelter	0.61	0.90	0.57	1.04	0.94	0.77
Furnishing and equipment	1.39	2.46	2.08	2.07	2.05	1.84
Household operation	1.14	1.22	0.87	1.08	1.01	1.05
Clothing	1.12	1.32	1.41	1.39	1.36	1.26
Food	0.31	0.47	0.49	0.54	0.48	0.54
Auto purchases	3.72	3.52	4.03	2.22	1.41	2.38

1 Includes payments for rent or mortgage, repairs and utilities.

2 Includes furniture, floor covering, household appliances, glass, china, silverware, household textiles.

3 Includes cleaning supplies and help, telephone and postage.

4 Excludes alcoholic beverages but includes meals consumed outside the house.

5 Excludes operation of the automobile and other transportation costs.

6 Family size, age of family head and form of house tenancy are taken into account separately and, therefore, do not effect these estimates.

Source: S. T. Nielsen, *An Examination of Household Expenditure Patterns of Canadian Immigrants*, Tables 3, 4 and 7
(Origin data from *Family Expenditure in Canada, 1969*).

interesting to note that the most recently arrived immigrants have expenditures which exceed their incomes, on average, by 8.5 per cent. Such large expenditures are undoubtedly necessitated because immigrants upon arrival have few possessions with them; furthermore, the funds brought with them often provide the means with which to make such purchases.

The distribution of expenditures by immigrants also varies somewhat according to their period of arrival. Thus, auto purchases involve a significantly higher proportion of expenditures for recently arrived immigrants, whereas, in contrast, food accounts for a slightly lower proportion. But these allocations of expenditures are dependent not only upon the period of arrival, but also on family size, whether housing is purchased or rented, and on the age of the head of the household; accordingly, it is desirable to examine expenditures for those who are alike in these characteristics.

This is done in the final portion of Table 5.1 where the expenditure elasticities — that is, the ratio of the percentage increase in expenditures on a commodity group to a given percentage increase in total expenditures — are shown. Thus, for example, an expenditure elasticity for Canadian-born of 0.77 for shelter indicates that on average one per cent increase in total expenditures by a Canadian-born is accompanied by a 0.77 per cent increase in expenditures on shelter. It is interesting to note that, for the major commodity groups shown, the expenditure elasticity is higher among the most recent immigrants for only auto purchases and household operations; immigrants having arrived even earlier, these elasticities tend to approach those for the Canadian-born, but some differences in taste are evident in that post-war immigrants tend to have higher expenditure elasticities for shelter, and for furnishing and equipment. There are also differences between the expenditure patterns of post-war and pre-war immigrants; these may reflect not so much adjustments over time, but differences among these immigrant groups.⁴⁰

Government Spending

No extensive study has been made of changes in government budgets that occur because of immigration. Such a study would be difficult for two obvious reasons. In many instances immigrants are eligible immediately after arrival for all government services and, accordingly, no separate records would be available of expenditures incurred for migrants. Moreover, such expenditures are typically undertaken by the federal, provincial and municipal governments, so that a study of government expenditures at these different levels would be involved. Similarly, the taxes paid by migrants are not identifiable in the revenues of the governments.

An alternative approach to ascertain the net impact of immigrants on the governments' budgets would be to compare the typical immigrant and Canadian-born as to their use of government services and the taxes which they pay. Unfortunately, complete information is not available to do a thorough analysis.

Perhaps because immigrants are treated much the same as the indigenous population, immigrants likely do not have a significantly different impact on government budgets. Such provisions as paid passage and initial accommodations — which are provided, for example, by the Australian government to assisted immigrants going there — are not given to immigrants to Canada; loans to eligible

immigrants are made from a revolving fund to finance transportation to Canada, but these must be repaid with interest within a maximum time of three years. Admittedly certain transfer payments are especially available to immigrants, but only until they have met the residence requirements to qualify for the particular benefits available to all. Therefore, unless contrary evidence comes to light, it seems reasonable to conclude that the specific impact of immigration on government expenditures and revenues is small; this perhaps also explains the paucity of study on this issue.

Investment

The impact of immigration on investment is also not known. Indeed, studies of investment and capital formation do not directly take it into account;⁴¹ the direct impact of immigration is on the determinants of investment and thereby only indirectly on investment itself.

The amount of investment in equipment and non-residential structures that is actually made is determined by both the desires of businessmen to invest and the availability of resources for investment. The rate of return on capital — that is, the profitability of investment — and expectations are usually considered the primary determinants of investment; both the increased supplies of labour and the increased potential for sales that results from immigration would have a positive impact on these. Similarly, the increased output generated by a larger labour force would increase the available resources for investment; and as already noted, foreign capital inflows would provide additional resources.

Similarly, the investment in housing is determined by the demand for housing and the resources available for their construction. Among the determinants of the demand for new housing, net family formation, the population movement from rural to urban areas and, in more recent years especially, the need for replacing old structures would together considerably outweigh the impact from immigration.⁴² Moreover, to the extent that initially some immigrants live with relatives or in accommodation which would otherwise be vacant, the inflow of immigrants will not immediately increase the demand for new housing.⁴³ Indeed, it has been found that immigrants are more mobile than the Canadian-born, with the majority of such moves being in the same municipality as they acquire improved living accommodations.⁴⁴

Investment in Canada during the post-war years has been substantial. Almost 22 per cent of Gross National Product during the years 1950-62 consisted of investment in non-residential capital and housing, and this proportion was among the highest in North America and Europe.⁴⁵ Such high rates of investment permitted an annual 5.1 per cent growth of gross capital stock of equipment and non-residential structure which was considerably greater than the rate of growth of the labour force; accordingly, the gross non-residential capital stock per worker grew at a rate of 3.1 per cent per year. Thus, in spite of the increases in the labour force through immigration, the capital-labour ratio increased over this period.

The stock of housing similarly increased. During the period 1950-62, 4.6 per cent of Gross National Product was devoted to residential construction.

Balance of Payments

Imports and exports undoubtedly are altered somewhat as a result of immigration, but no study has been made of the impact of immigration on these items; again this is probably because the net effect of immigration on the balance of trade has been relatively small, and much more concern is expressed about the country's dependence on trade both in a few major primary products and with the United States. As has already been noted above, migrants' funds amount to millions of dollars annually, but are still small compared to the other components of the balance of payments, including the annual inflow of long-term capital. Moreover, in more recent years the existence of a flexible exchange rate removes the possibility of a balance-of-payments crisis.⁴⁶

Efficient Allocation of Resources

During the post-war period, two changes have been cited which have contributed significantly to increased efficiency of resource allocation; these have been the decline in the relative importance of employment in agriculture, and the decline in other forms of self-employment, most notably in the trade and service industries.⁴⁷ Similarly, the reduction of "bottlenecks" — or acute labour shortages — during periods of rapid economic expansion, has enabled fuller utilization of existing resources at such times. Immigration has affected all three of these elements, and likely has had the most positive effect on the latter.

The decline in the number of agricultural workers was especially large during the 1950s. As shown in Table 5.2, agricultural workers declined by 177,000 during the intercensus period 1951-61, whereas non-agricultural workers increased by 1,357,000. Since many of these agricultural workers would have been relatively unskilled, their absorption into the remainder of the economy was undoubtedly made easier because of the large growth in the labour force. Immigration contributed significantly to this growth, and hence exerted a positive impact in this respect. However, 100,000 immigrants were agricultural workers, and in this respect aggravated the situation; during the earlier years of this period, agricultural workers were being encouraged to immigrate to Canada, and some migrants may have declared an intention to enter agricultural occupations to gain admission into the country. It is, therefore, not clear what the net contribution of immigration was in this respect.

Similarly, the proportion of self-employed and family workers in the non-agricultural sectors declined from 13.8 per cent of the labour force in 1950 to 11.0 per cent in 1962.⁴⁸ The number of workers involved is much smaller than for the shift in agricultural workers and hence they were relatively readily absorbed into paid employment.

As noted in the discussion of the contribution of immigrants to the labour force, immigrant workers did fill labour shortages and thereby contributed to increased efficiency in the allocation of resources. However, it is not possible to quantify this effect.

TABLE 5.2
COMPONENTS OF CHANGE IN THE TOTAL AND AGRICULTURAL LABOUR FORCE,
CANADA, 1951-61
(In Thousands)

Year	Labour Force ¹		Immigration ²		Emigration to the U.S.	
	Total	Agricultural	All Workers	Farmers	All Workers	Farmers
1951	5,276	826				
1961	6,458	649				
10-year change ¹	1,182	- 177	845	100	211	6

¹ Excludes those seeking work for the first time.

² For migration, years 1951-60.

Source: S. Ostry, *The Occupational Composition of the Canadian Labour Force, 1961 Census Monograph*, Queen's Printer, Ottawa, 1967, Table 11C for labour force figures; Table A.7 for immigration data and the sources cited therein; emigration data from United States Department of Justice, Immigration and Naturalization Service, special tabulations provided to Statistics Canada.

Relative Prices

Changes in the relative prices of the commodities, services or productive factors of concern basically are explained in terms of the relative changes in the supply of and demand for them. Immigration — either directly or indirectly — is but one of many factors affecting supply and demand, and there have been no studies undertaken specifically to analyse the impact of immigration into Canada on specific relative prices. Using the analytical framework set out in Chapter 3, one could indicate the types of shifts that probably have resulted from immigration;⁴⁹ however, any quantitative estimates would, at best, be very tentative and open to serious doubts as to their accuracy. Accordingly, a detailed analysis is not attempted here.

Among all prices, that of the price of labour is probably of greatest interest to most individuals because their wage earnings constitute the major part of their income. If the amount of capital per worker increases, or if economies of scale are realized, the average absolute wage will increase. But whether the wage rate in one occupation will rise or fall relative to that in another depends, as noted in the preceding paragraph, on the relative shifts in the supplies of, and demands for, these workers. Other things being the same, a larger number of immigrants into a particular occupation will reduce the relative wage of that occupation, as well as the relative wages of the occupations of those workers who can be more readily displaced by (or substituted for) immigrant workers; thus, for example, a large inflow of wallpaperers will depress the relative wages in this trade, as well as that of painters who will find that more people are having their walls papered rather than painted. But other things are seldom the same. Perhaps the energy crisis convinces

people that wallpapering is a superior decorative finish as it has excellent insulating qualities, and now the demand for wallpaperers increases substantially and their relative wages begin to rise; immigration may occur and dampen this increase, but the relative wages of wallpaperers may, nevertheless, be higher even with immigration. Consequently, a detailed analysis of each particular situation is required to ascertain the direct and indirect impact of immigration on relative wages.

Economic Growth

One way of estimating the impact of immigration on economic growth is to analyse the components of the post-war growth of the Canadian economy, and to ascertain the extent to which these components may have been affected by immigration. Previous studies of Canada's economic growth provide the basis for the analysis of this section.⁵⁰

As summarized in Table 5.3, Canada's Net National Income — that is, the sum of incomes earned from contributing to current output by factors of production owned by Canadian residents — grew at an average annual rate of 4.5 per cent during the period 1955-62 and 6.0 per cent during 1962-67. The larger part of this growth — in fact close to three-fifths of it — occurred because inputs increased. Since these inputs increased qualitatively as well as quantitatively, appropriate adjustments are needed. For example, a group of workers represents, on the one hand, increasingly less labour because they work fewer hours and the proportion of males in the prime working age groups has declined and, on the other hand, they are more effective since the average amount of education per worker has increased. Decreasing hours worked, it should be noted, effectively decreases the quantity of labour and hence is shown as decreasing the growth rate. But if workers voluntarily chose increased leisure, they have increased their real income; this should indicate, therefore, that national income is not synonymous with increases in economic welfare. Foreign capital, which by definition is not owned by Canadian residents, is shown as having a negative impact on the growth rate; that is, if the foreign capital were domestically owned, Canadians' income would have increased even more. And finally, it should be noted that most of the remaining portion of growth resulted from improved allocation of resources, economies of scale, and from such residual sources as technological change; various minor adjustments — too complex to summarize briefly here, but included in the table for the sake of completeness — had only a marginal effect on these overall results.

But growth in output per person — or per worker, as provided in the source material being used — is more relevant, as was argued at the beginning of this study. Canada's net national income per employed person increased at the average rate of 2.8 per cent per year during the period 1950-62; in comparison to other countries, this rate was somewhat greater than that of the United States (2.2 per cent) or the United Kingdom (1.6 per cent), for example, but less than that in Germany (5.2 per cent) or France (4.8 per cent).⁵¹ Moreover, this rate of growth in Canada was uneven over the entire period, being 3.4 per cent during 1950-55 and only 2.3 per cent during 1955-62 when there was a sharp decline in economic activity.

As summarized in Chart 5.13, only between 14 and 35 per cent of this growth in

TABLE 5.3
 CONTRIBUTION OF FACTOR INPUTS AND OUTPUT PER UNIT OF INPUT TO GROWTH
 OF NET NATIONAL INCOME, CANADA, 1950-67
 (Contribution to growth rates in percentage points)

	1950-55	1955-62	1962-67
Net National Income	5.2	4.5	6.0
Factor Inputs	3.1	2.4	3.8
Labour	1.3	1.6	2.7
Employment	1.3	1.7	2.6
Hours worked	— .3	— .1	— .2
Age-sex composition	—	— .2	— .2
Education	.3	.2	.5
Capital	1.8	.8	1.0
Housing	.5	.1	.3
Foreign investments	.1	— .2	— .2
Non-residential structures and equipment	1.0	.8	.8
Inventories	.2	.1	.1
Land	—	—	—
Output per Unit of Input	2.1	2.1	2.3
Improved allocation of resources			
Decline in agricultural inputs	.8	.4	.4
Decline in nonagricultural self-employment	.3	—	.1
Economies of scale			
Growth in national market	.5	.5	.6
Growth in local markets	.1	.1	.1
Income elasticities in consumption	—	—	.1
Statistical adjustments*	.2	.3	.2
Variations in pressure of demand*	—	— .1	— .1
Variations in agricultural output*	.1	—	— .1
Residual sources of growth	.5	.9	1.0
Adjusted Growth Rates ¹			
Net National Income	5.3	4.4	6.0
Factor inputs	3.1	2.4	3.8
Output per unit of input	2.2	1.9	2.3

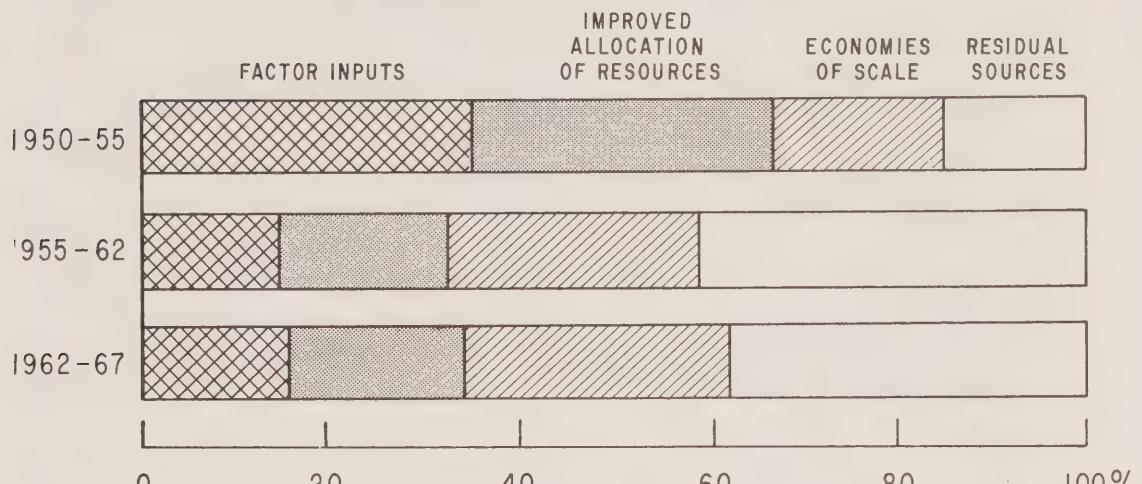
¹ Adjusted to exclude the effect on starred (*) items — statistical adjustments, variations in agricultural output.

Note: Detail has been rounded to tenths of a percentage point and may not add.

Source: D. Walters, *Canadian Growth Revisited, 1950-1967*, Economic Council of Canada Staff Study No. 28, Queen's Printer, Ottawa, 1970, p. 6.

Canada came from increased factor inputs — basically capital — per employed worker. Especially during the final two periods, by far the largest portion of growth is attributed to increased output per worker; economies of scale (arising mainly from enlarged national markets) and improved allocation of resources account for about one-quarter and two-fifths respectively of this increase per worker output.

Chart 5.13
Percentage Composition of the Contributions
to Growth of Net National Income
per Person Employed, Canada, 1950-67



SOURCE: Table A.22

Additional insights into the relative importance of these various sources of growth can be obtained by comparing the Canadian experience with that of the United States and Northwest Europe.⁵² As summarized in Table 5.4, both economies of scale resulting from growth in national markets and improved allocation of resources contributed more to growth of net national income per worker in Canada than in the other two regions; similarly the contribution of capital was greater in Canada. In contrast, the growth attributable to the residual sources of growth — including also technological change — was smaller in Canada than in the other two areas, and the importance of education in Canada was only half that in the United States. Europe, having somewhat lower initial levels of income, benefitted significantly from economies of scale that resulted from the generated increases in consumption.

These statistics provide the basis for indicating the more significant points of impact of net immigration on Canadian economic growth. Since immigration contributed about one-quarter of the growth of population during the years 1950-62 — and therefore about the same to the size of the national market — a similar portion of the growth in income per worker resulting from economies of scale can be indirectly attributed to immigration. And as indicated in a preceding section, immigration may have contributed to the improved allocation of resources.

TABLE 5.4
 INTERNATIONAL COMPARISON OF THE SHARE CONTRIBUTION OF FACTOR INPUTS
 AND OUTPUT PER UNIT OF INPUT TO GROWTH OF ADJUSTED¹ NET NATIONAL INCOME
 PER PERSON EMPLOYED
 (Percentage shares)

	United	Northwest	Canada	
	States	Europe	1950-62	1962-67
	1950-62	1950-62	1950-62	1962-67
Net National Income	100	100	100	100
Factor Inputs	36	20	26	16
Labour	10	3	− 1	4
Hours worked	− 8	− 4	− 7	− 9
Age-sex composition	− 5	1	− 4	− 7
Education	22	6	10	20
Capital	27	17	31	15
Housing	10	1	8	5
Foreign investments	2	− 1	− 1	− 3
Non-residential structures and equipment	13	14	23	11
Inventories	3	4	2	2
Land	− 1	− 1	− 3	− 3
Output per Unit of Input	64	80	73	84
Improved allocation of resources				
Decline in agricultural inputs	11	12	23	16
Decline in nonagricultural self-employment	2	4	5	5
Reduction in international trade barriers	−	2	−	−
Economies of scale				
Growth in national market	14	11	20	25
Growth in local markets	3	2	3	2
Income elasticities in consumption	−	12	−	3
Capital adjustments ²	−	3	−	−
Residual sources of growth	34	34	22 ¹	34 ¹

¹ Adjusted to exclude statistical adjustments, variations in pressure of demand, and variations in agricultural output, also the effect of the use of productivity — and profit-adjusted deflators for construction in Canada.

² Includes the effect of "Reduction in the age of capital" and "Balancing of the capital stock" for some countries in Northwest Europe.

Note: Detail may not add due to rounding.

Source: P. 41, as cited in Table 5.3

Immigration also has helped upgrade the educational qualifications of the labour force, and has especially contributed prime aged male workers to the labour force; without immigration, therefore, the (net) qualitative adjustments made to the Canadian labour force in these calculations would have been even more adverse.⁵³ And even with the large immigration which took place into Canada, investment was sufficiently large to enable capital to contribute sizeably to the growth in income per employed person. Of course, one might argue that capital would have contributed even more to the growth of income per worker if the labour force had not increased so much. However, this assumes that the same amount of investment would have occurred with the lower rate of increase in the labour force; it seems more plausible to conclude that the implied higher capital-labour ratio would mean a lower rate of return to capital and, therefore, not as much investment would have occurred. Indeed, it is only on the residual sources of growth that Canada has not fared well. Perhaps immigration, by providing a more abundant supply of labour, discouraged the adoption of labour-saving techniques and more efficient technology or, conversely, by enabling a higher rate of investment in capital, enabled entrepreneurs more readily to adopt the available improved technology; the current state of knowledge does enable one to conclude what, if any, (net) effect immigration may have had on this. These considerations seem to indicate that on the whole the impact of immigration on economic growth has been favourable, but it is not possible precisely to estimate the magnitude of its contribution to growth; if it is assumed that net immigration contributed at least one-quarter of the economies of scale and contributed similarly to education and the age structure of the labour force, and that the capital-labour ratio would have remained the same in the absence of immigration, then approximately one-tenth of the growth during this period may be attributed to net immigration.

But this type of rough estimate is very tentative for a number of reasons. The estimated magnitudes of the economies of scale that are given in the above tables are derived on the basis of a number of assumptions, including one about the relative importance of economies of scale; however, no consensus exists as to the significance of economies of scale, and some argue that it cannot be large.⁵⁴ Moreover, the estimated impact of migration on economic growth depends very much on what is assumed to occur in the absence of immigration.⁵⁵ For example, would the capital-labour ratio be the same, larger or smaller if immigration had not occurred? Nor is it presently understood, as has been indicated, just how immigration affects entrepreneurship and technological knowledge and, accordingly, these cannot be taken into account. Current knowledge is therefore insufficient to provide a precise estimate of the impact of immigration on economic growth.

Price Levels⁵⁶

Inflation is usually attributed to one of three major causes: excess demand, increased costs arising from pay increases (larger than productivity increases), and bottlenecks in production. In an open economy, inflation from abroad is transmitted through these means, and likewise immigration can affect price levels through its effects on these causes.

Although it is not possible to quantify precisely the impact of post-war (net)

immigration on aggregate demand and supply in Canada, it seems likely that the increased demand resulting from immigration has not been very different from the increased supply that is generated. Accordingly, the contribution to inflation arising from the pressures of excess demand emanating from immigration has been small.

The salaries and incomes of immigrants initially are lower than those of the indigenous population in similar occupations;⁵⁷ this may largely reflect that an immigrant, lacking experience in the Canadian labour force and probably having language problems, is initially less productive than an indigenous worker. Unless such migrants are relatively more inefficient than their lower earnings indicate, there should be no cost pressures on prices arising from immigration.

Immigrants could, of course, reduce the inflationary pressures by helping to reduce labour shortages. But as already noted in the discussion of the impact of immigration on the labour force, it is not possible to quantify the impact which immigration has had in this respect.

Taking all these effects together, and comparing them to the strength of the pressures on the price level emanating from elsewhere, it appears that the impact of immigration on inflation has been marginal and much smaller than the pressures on prices arising from excess demand generated domestically or from abroad.

Unemployment⁵⁸

Various types of unemployment may be distinguished according to their causes: cyclical (or deficient-demand) unemployment results from aggregate demand being inadequate to employ all workers wishing to work at the prevailing level of wages; structural and technological unemployment results from changes in tastes and production techniques or in the available mix of complementary factors of production which make workers in certain occupations, industries or locations redundant; seasonal unemployment results from seasonal fluctuations in the requirements and availabilities of workers and their output; and frictional unemployment results from the movement of workers from one job to another. Immigration can affect the levels of unemployment through their effects on these causes; moreover, immigrants may also alter the composition of the unemployed by providing employers a substitute for indigenous workers.

As noted in the preceding section, the impact of immigration on excess demand is likely to be marginal; consequently, the impact on cyclical unemployment is likewise probably small, and immigration tends to vary inversely with cyclical fluctuations in economic activity. In contrast, as has already been described, immigrants have likely remedied labour shortages in the past and thus may have contributed to increased employment by removing bottlenecks and making additional job opportunities available. Similarly, seasonal needs in agriculture are partly met by immigrant workers admitted for a limited time; this reduces the necessity of the indigenous workers providing such seasonal labour.

Since it takes some immigrants a period of time after arrival to find employment, the employment rate is temporarily increased; frictional unemployment is thereby increased. But to the extent that immigrant workers come to prearranged employment, this does not occur.⁵⁹

The substitution of immigrant workers for indigenous workers is difficult to detect in the available statistics. It is often found that immigrants during their initial year or two in the country generally have above average rates of unemployment.⁶⁰ But as was noted in the analysis of the impact of immigration on the labour force, migrant workers have tended to enter occupations and regions where the rates of unemployment were lower; thus there is no strong evidence that immigration has resulted in increased unemployment among indigenous workers. Moreover, immigration policy also has tended to reinforce the tendency for immigration to decline during cyclical downturns in economic activity.

Income Distribution⁶¹

No significant empirical analysis exists of the impact which immigration has had on the distribution of income. The redistribution of income that may result as a consequence of immigration depends upon the existing circumstances, and is determined by many divergent forces — the autonomous and induced changes in the supplies of, and demands for, various factors of production, the prevailing methods of production and the distribution of ownership of productive factors, the extent and nature of foreign trade, the strength of unions and professional associations, and government policies, to name but a few of the obvious ones. A cursory glance at aggregate data suggest that the impact of immigration likely was not large.

Immigration, by increasing the supply of labour, could be expected to decrease wages relative to other factor payments; but offsetting this has been the increased amounts of capital that are available per worker. Moreover, the way in which personal incomes are redistributed also depends on the distribution of land and capital among the population. And changes in the systems of taxation and transfer payments affect income distribution, and these can further be altered to attain the desired distribution. Since no drastic changes have occurred, the overall impact of immigration has not been the object of concern.

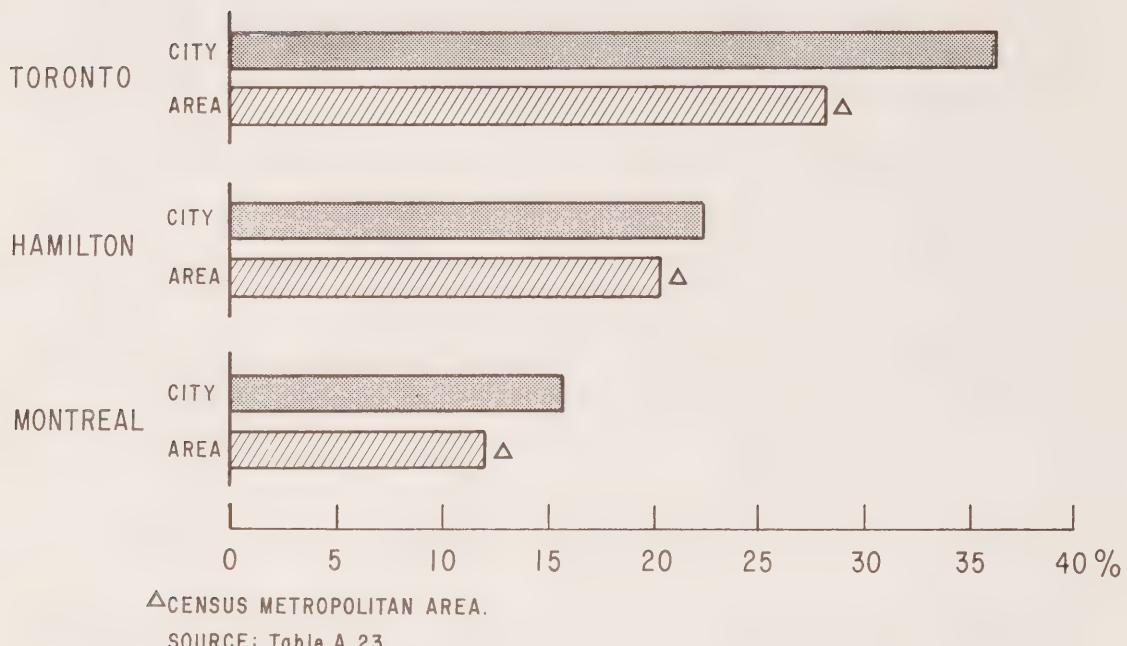
Regional Distribution

Some aspects of the regional impact of immigration have already been noted. Immigrants have predominantly settled in Ontario, and in Toronto in particular. This concentration of migrants in a few large urban centres is clearly shown in Chart 5.14. Over one-quarter of the population of the census metropolitan area of Toronto are post-war immigrants; these immigrants represent 31.7 per cent of Canada's post-war immigrants (whereas metropolitan Toronto contains 12.2 per cent of Canada's population). Hamilton has a smaller number of such immigrants which, nevertheless, constitutes close to one-fifth of the total population; greater Montreal, in contrast, also has a large number of immigrants which only account for one-seventh of the area's population.

Most urban centers have experienced substantial population growth over the years, and this has been significantly brought about by post-war immigration.⁶² Professional and skilled immigrant workers show a preference for an urban industrial location; and often nominated and sponsored migrants settle close to their

Chart 5.14

**Post-war Immigrants as a Proportion of Population
in Selected Cities, Census 1971**



relatives and within their ethnic neighbourhood, so that urban centers are made larger. Such population concentration, however, often have brought about sizeable social cost to these cities and its residents; for example, increased congestion, strained transportation facilities and growing noise and air pollution have resulted, and these problems have been given increasingly more attention in recent years.

The regional distribution of post-war immigrants has affected the internal mobility of the indigenous population. As already noted in the analysis of the labour force, international migrants have tended to go to areas where incomes have been higher and unemployment rates lower; accordingly, insofar as they have diminished the regional differentials in incomes, international migrants tend to substitute for internal migration. But insofar as these foreign workers create opportunities in occupations which indigenous workers can fill, the movement of such complementary workers is stimulated.

Aggregate Impact⁶³

Some of these interacting effects have been studied within the framework of aggregate models of the economy. These models, together with the detailed results, are too complex to summarize fully, and only the main results are given.

Although somewhat different in design and using different models, two earlier

studies have yielded similar results.⁶⁴ If net migration had been doubled what it was during the period beginning in the early 1950s and ending in the late 1960s, unemployment rates would have been slightly higher as a result, and the levels of per capita income slightly lower.

CANDIDE, the current economic model used within the federal government, essentially gives the same results. The analysis consists essentially of postulating different levels of annual gross immigration and then comparing how various relevant economic variables are thereby altered. Thus, as summarized in Table 5.5, increasing gross immigration from 80,000 to 200,000 would decrease the balance of trade by \$50,000, decrease per capita real GNP by \$28 (or 0.8 per cent) annually, increase the rate of unemployment by 0.75 of a percentage point and diminish the growth of the price index by 0.08 per cent; investment in both non-residential construction and machinery and equipment are increased by about 2 per cent, whereas the labour supply is increased by less than 3 per cent, so that the capital-labour ratio falls slightly. With the possible exception of the rate of unemployment, the other variables are indeed changed only marginally; and residential construction is higher, of course, since population is increasing faster. Of more interest is to estimate the magnitude of some compensatory expansionary fiscal policy that would be required to offset this increased unemployment; accordingly, the required increases in government fixed capital formation were calculated, as summarized in Table 5.6.

Thus, for example, if annual gross immigration doubled from 80,000 to 160,000, it is estimated that an additional annual expenditure of \$370 million in government fixed capital formation would prevent unemployment from increasing. In such an event, however, the rate of growth of the price index would increase by 0.20 per cent and per capita real GNP would likewise increase \$29.

If the above results are accepted, three significant points are worth noting. The impact of increased immigration on various economic variables are usually quite marginal; the change in fiscal policy to offset what increased unemployment may result is relatively small — doubling gross immigration, as noted above, would be accomplished with no increase in unemployment and slightly higher per capita real GNP and increased inflation if government fixed capital formation increases on average by \$4,625 per additional immigrant admitted; these results are, on the whole, in keeping with those already given in the partial equilibrium approach, but now some quantitative estimates of the impact are possible.

But as has been already noted, the results of any model are dependent to varying degrees upon the structure of the model. Within the model used here, for example, essentially constant returns to scale are incorporated; the consumption pattern of immigrants (for various age groups) are assumed to be the same as that of the indigenous population; occupational and regional bottlenecks in production are not taken into account.⁶⁵ Further research is required to ascertain the extent to which these omissions would affect the quantitative estimates. The existing model now essentially indicates that immigration increases aggregate supply slightly more than aggregate demand; and if the consequent deflationary effects are to be

TABLE 5.5
 THE EFFECTS OF DIFFERENT LEVELS OF GROSS IMMIGRATION ON SELECTED
 ECONOMIC VARIABLES OVER THE PERIOD 1972-80.
 (Estimate Derived from the Candide Model.)

Economic Variables ¹	Levels of Gross Immigration (Assuming 60,000 Gross Emigration)			
	80,000	120,000	160,000	200,000
Residential Investment				
Value	3.48	3.69	3.91	4.12
Growth	3.64	4.43	5.15	5.82
Investment in Non-Residential Construction				
Value	5.49	5.53	5.57	5.61
Growth	5.79	5.93	6.06	6.19
Investment in Machinery and Equipment				
Value	6.41	6.45	6.50	6.55
Growth	6.55	6.57	6.63	6.70
Exports				
Value	19.88	19.89	19.89	19.89
Growth	6.28	6.28	6.28	6.28
Imports				
Value	18.08	18.12	18.18	18.24
Growth	5.99	5.98	5.98	6.01
Government Current Expenditures				
Value	12.70	12.77	12.84	12.92
Growth	4.23	4.32	4.41	4.51
Government Fixed Capital Formation				
Value	3.46	3.47	3.49	3.50
Growth	4.41	4.51	4.59	4.69
Per Capita GNP				
Value	3,764	3,753	3,744	3,736
Growth	3.98	3.87	3.78	3.69
Unemployment Rate	4.45	4.71	4.96	5.20
Labour Supply: Number (millions)	9.58	9.67	9.75	9.84
Growth	2.40	2.56	2.72	2.88
Consumer Price Index Growth	2.27	2.23	2.20	2.19

¹ Average (constant dollar) values are shown in billions of dollars except GNP per capita which is in dollars; growth rates are shown in per cent terms.

Source: G.W. Davies, *The Role of Immigration in Candide Model 1.0*, Table 2.

TABLE 5.6
THE EFFECTS OF DIFFERENT LEVELS OF GROSS IMMIGRATION ON SELECTED
ECONOMIC VARIABLES OVER THE PERIOD 1972-80

(Assuming that government fixed capital formation is increased so as to maintain the level of
unemployment at 4.5 per cent)

Economic Variables ¹	Levels of Gross Immigration (Assuming 60,000 Gross Emigration)			
	80,000	120,000	160,000	200,000
Per annum increase in Government Fixed Capital Formation		.190	.370	.550
Previous Government Fixed Capital Formation				
Value	3.46	3.47	3.49	3.50
Growth	4.41	3.68	3.89	4.10
Required Government Fixed Capital Formation				
Value	3.46	3.68	3.89	4.10
Growth	3.98	3.98	3.98	3.98
Per Capita GNP				
Value	3,764	3,779	3,793	3,808
Growth	3.98	3.98	3.98	3.98
Consumer Price Index Growth	2.27	2.37	2.47	2.58

¹ Average (constant dollar) values are shown in billions of dollars except GNP per capita which is in dollars; growth rates are shown in per cent terms.

Source: Table 3 of source cited in preceding table.

avoided, a small autonomous increase in aggregate demand is required.

Summary

The results of previous research do not clearly indicate the economic impact of post-war immigration into Canada. It does appear, however, that in most instances the impact has not been large. The most significant effects of immigration likely are to increase slightly per capita incomes and economic growth — especially if economies of scale exist and immigration encourages increased capital formation, technological knowledge and greater efficiency in resource allocation — and to provide for a more flexible labour force in that immigrant workers can remedy labour shortages. But the extent to which these circumstances — such as economies of scale for example — exist are neither easily determined nor readily agreed upon.

FOOTNOTES

¹ For an extensive bibliography, see Department of Manpower and Immigration, *Immigration, Migration and Ethnic Groups in Canada, A Bibliography of Research 1964-1968* (Ottawa, 1969). (The earlier periods are covered in the preceding issues of the Department of Citizenship and Immigration entitled *Citizenship, Immigration and Ethnic Groups in Canada, A Bibliography of Research, 1920-1958* for 1959-61 and for 1962-64 (Ottawa: Queen's Printer, 1960, 1962 and 1964 respectively.)

² G. D. McQuade, "Trends in Canadian Immigration", *International Migration* 2:221-34; W. R. Needham, "Immigration to Canada from the British Isles, 1951-1964: A Regional Analysis of Sending Areas" (Ph.D. thesis, Queen's University, 1968); L. Parai, *Canadian International Immigration, 1953-1965: An Empirical Study*; W. L. Marr, *The Economic Impact of Canadian Inward and Outward Migration and their Determinants, 1950-1967* (Ph.D. thesis, University of Western Ontario, 1972), chap. 3; J. F. Helliwell, et al., *The Structure of RDX2* (Ottawa: Bank of Canada, 1971), pt. 1, pp. 106-10 and pt. 2, p. 42; H. S. Tjan, "A Quantitative Study on the Effects of "Slack" on the Flow of Immigrants to Canada" (Discussion Paper no. 2, Economic Council of Canada, 1970); Department of Manpower and Immigration, "Immigration to Canada, 1950-1972: An Analysis of Annual Flows Using a Labour Market Adjustment Model", 1973.

³ "Immigration to Canada, 1950-1972: An Analysis of Annual Flows Using a Labour Market Adjustment Model", p. 3. This estimate is derived from a linear regression equation, fitted to the 1950-72 annual data, in which immigration in one year is a function of the rate of unemployment in Canada in the preceding year.

Alternatively, higher rates of unemployment may be regarded as representing decreasingly fewer job opportunities, and thus the inverse of the unemployment rate — that is, $1/(\text{unemployment rate})$ — may be taken as the appropriate specification of this variable in a linear regression equation; similarly, the effects of other variables — unemployment in the home country and the changes in relative real wages, for example — may be incorporated in a multiple linear regression equation. When this is done, the effect of changes in the Canadian rate of unemployment has been estimated as follows:

Increases in the average annual rate of unemployment in Canada	Estimated decrease in annual immigration (thousands)
from 3 to 4 per cent	39
from 4 to 5 per cent	25
from 5 to 6 per cent	16
from 6 to 7 per cent	11

This formulation implies that the larger part of the reduction in immigration occurs when unemployment initially increases. (The empirical results are taken from H. S. Tjan, "A Quantitative Study on the Effects of "Slack" on the Flow of Immigrants to Canada", p. 8.)

⁴ See, for example, Mabel Timlin, *Does Canada Need More People?* and *White Paper on Immigration*, p. 18-9.

⁵ Promotional activities — including advertisements in newspapers and on television, public lectures and film showings — especially in the United Kingdom where such recruiting activities have been permitted, have varied in intensity according to the labour requirements in Canada; loans to cover the costs of passage to Canada are similarly varied.

⁶ Because this aspect of immigration policy is, by its very nature, closely related to changes in the unemployment rate, it is not possible statistically to measure the impact of immigration policy upon the fluctuations in immigration. There is some evidence based on quarterly data, however, which indicates that this policy has influenced immigration flows; see L. Parai, *Canadian International Immigration, 1953-1965: An Empirical Study*, especially pp. 142, 150-54, and W. L. Marr, *The Economic Impact of Canadian Inward and Outward Migration and their Determinants, 1950-1967* pp. 44-8.

For a brief discussion of the extent to which changes in Canadian immigration policy have increasingly reflected the economic and manpower needs of the country, see L. Parai, "Canada's Immigration Policy, 1962-73", (University of Western Ontario, August 1973), and F. Hawkins, *Canada and Immigration, Public Policy and Public Concern* (Montreal: McGill-Queen's University Press, 1972), especially chap. 6.

⁷ See, for example, W. L. Marr, *The Economic Impact of Canadian Inward and Outward Migration and their Determinants, 1950-1967*, pp. 41-8.

⁸ See, for example, L. Parai, *Canadian International Immigration, 1953-1965: An Empirical Study*, pp. 78-9 and 124-6; W. L. Marr, *The Economic Impact of Canadian Inward and Outward Migration and their Determinants, 1950-1967*, H. S. Tjan, "A Quantitative Study on the Effect of "Slack" on the Flow of Immigrants to Canada", pp. 4-7.

⁹ See, in particular, D. C. Corbett, *Canada's Immigration Policy: A Critique* (Toronto: University of Toronto Press, 1957), chaps. 2 and 3, and his "Canada's Immigration Policy: 1957-62", *International Journal* 18:166-80; and F. Hawkins, *Canada and Immigration, Public Policy and Public Concern*, pt. 2.

¹⁰ Indeed, this aspect of the sponsorship system, along with the powerful growth factor in immigration which is implied by such a system, was pointed out in the *White Paper on Immigration* (pp. 11-4 and 19-21), and was the basis for recommending that the system be altered.

¹¹ For previous studies presenting detailed data and discussion of the labour force characteristics of post-war immigrants and their impact on the Canadian labour force, see especially Canada, Department of Labour, Economics and Research Branch, *The Migration of Professional Workers Into and Out of Canada 1946-1960* (Ottawa: Queen's Printer, 1962); L. Parai, *Immigration and Emigration of Professional and Skilled Manpower During the Postwar Period*; W. E. Kalbach, *The Impact of Immigration on Canada's Population*, 1961 Census Monograph (Ottawa: Information Canada, 1970), especially chaps. 4 and 5; and L. Parai, "International Immigration Into Australia and Canada, 1946-71".

¹² All of the 1971 Census results are not available at present and, accordingly, the 1961 Census data are used for comparative purposes. Since 1961 is close to the midpoint of the period under study, these statistics often do serve as appropriate bases for comparison.

¹³ See, in particular, N. H. W. Davis and M. L. Gupta, *Labour Force Characteristics of Postwar Immigrants and Native-Born Canadians, 1956-67*, Special Labour Force Studies no. 6 (Ottawa: Queen's Printer, 1968), pp. 15-22, 43-4; for the more recent data, see Department of Manpower and Immigration, Research Projects Group, "Immigration and the Labour Force", unpublished paper prepared for the Task Force on Canadian Immigration and Population, December 1973, p. 21.

For specific age groups in the labour force survey of February 1967, Davis and Gupta (p. 43) found the following participation rates:

Age groups	Postwar Immigrants		Canadian-born	
	Male	Female	Male	Female
14-19	37.1	27.6	31.9	26.1
20-24	83.9	55.2	82.8	55.9
25-34	97.0	41.7	96.2	32.7
35-44	98.9	43.6	97.0	34.6
45-54	98.7	44.3	95.2	37.9
55-64	92.9	27.9	83.7	28.5
65 and over	43.5		22.7	6.1
All ages	88.4	40.2		

The higher participation rates among most female immigrants has likewise been noted more recently by B. G. Spencer, "Determinants of the Labour Force Participation of Married Women: A Micro-Study of Toronto Households", *Canadian Journal of Economics*, 6:222-38.

¹⁴ The simplest way to estimate the annual contribution that net immigration has made to the increases in the labour force is to assume that the emigrants from Canada have had the same overall participation rates as immigrants to Canada. Accordingly, as described in detail in the footnotes to Table A.6, the annual increases in the labour force can be decomposed into that resulting from estimated net immigration and from domestic changes, the latter being obtained residually as the differences between the estimated increases in the labour force and net immigration.

This residual estimate of the component of the increased labour force that arises from domestic sources does not distinguish, however, between the change due to population increase resulting from natural growth, and that arising from changes in participation rates. Therefore, an alternative estimation procedure — also described in detail in the footnotes to Table A.6 — is employed. Since errors of estimate are included by the first procedure with estimated domestic change, and by the second procedure with estimated net immigration, the two sets of estimates are not expected to be identical. Indeed, there are noticeable differences in some years, but on the whole the results are very consistent.

Both these estimates of the contribution of estimated net immigration to the growth of the labour force, it may be noted, are downward biased. The estimated impact of immigration consists essentially of only those immigrants who upon arrival declared that they intended to enter the labour force; accordingly, in the first procedure, the effect of those immigrants who subsequently enter the labour force is included among the changes that arise from domestic sources and, in the second procedure, the already noted higher participation rates among immigrants contribute to increasing the participation rate in the country and thereby some of the impact of immigrants unfortunately would also be included with the estimated effect of increasing participation rates. (And thus it is expected, as indeed the table shows, that the magnitude of the estimated net immigration derived in the second estimation procedure is smaller than that obtained from the first procedure.)

¹⁵ See A. H. Richmond, *Postwar Immigrants in Canada* (Toronto: University of Toronto Press, 1967), pp. 50-62; Department of Manpower and Immigration, Research Branch, Program Development Service, "The First Year in a New Country (Immigrants of 1969)", unpublished manuscript, 1972, pp. 27-40; Department of Manpower and Immigration, Research Projects Group, Strategic Planning and Research Division, "Two Years in Canada (Immigrants of 1969)", unpublished manuscript, 1973, pp. 11-35.

¹⁶ "The First Year in a New Country (Immigrants of 1969)", pp. 38-40. Much the same comments are to be found in the subsequent report that is mentioned in the preceding footnote.

¹⁷ Indeed, given the point system introduced in 1967 which allocated 30 of the total possible 100 assessment units for education and skill level, one may wonder why the change noted after 1967 was not even more pronounced than it actually was. The characteristics of sponsored and nominated immigrants, together with the increasing proportion of such migrants, likely account for this.

Since sponsored migrants are eligible for admission if they are in good health and fewer assessment units are required for a nominated migrant to qualify to enter, a much smaller proportion of these sponsored and nominated migrants have been either professional or skilled workers and more have been unskilled; this is clearly seen from Table A.8, even though the broad occupational groups are not all comparable to those used in the preceding table. Thus, whether the intended occupations or actual occupations after residence in the country for one year are used, it is seen that whereas about two-fifths of independent migrant workers are in professional and technical occupations, only about one-tenth of the nominated and sponsored are in these occupations; in contrast, labourers are at least seven to eight times as prevalent among the sponsored and nominated as compared with independent immigrants. Furthermore, as shown in Table A.9, the proportion of sponsored and nominated among all immigrants has tended to increase over the years. Therefore, the lower skill mix among these groups, together with a general increase in their relative size, has undoubtedly tended to constrain the increases in the proportion of workers who have high educational and skill qualifications.

On the other hand, in recent years an increasing proportion of all immigrants have been admitted by having their visitor status changed to that of a landed immigrant; 5.8 per cent of immigrants admitted in 1967 were visitors in Canada who were granted immigrant status, as compared with 28.9 per cent in 1971. And even though this procedure for gaining admission was recently removed, it is of interest to see what effect these immigrants may have had on the composition of the labour force. The occupational distribution of samples of such visitors granted landed immigrant status during the three years 1969-71 is summarized in Table A.10; it appears from this that during these years these migrants have been predominantly independent who are especially concentrated among the managerial, professional and technical occupations. Nor should this be surprising since presumably those who did not meet the selection criteria during those years were not admitted; some of the unsuccessful applicants, however, may have appealed their case to the Immigration Appeal Board.

¹⁸ I wish to thank Larry Epstein for bringing to my attention the need to take into account the increase in the demand for labour that is generated by immigrants when evaluating the contribution of immigrants to the growth in the various components of the labour force.

¹⁹ Economics and Research Branch, Department of Labour, *Skilled and Professional Manpower in Canada, 1945-1965*, Study prepared for the Royal Commission on Canada's Economic Prospects (Ottawa: Queen's Printer, 1957), p. 34.

²⁰ It must be emphasized that, indeed, this table provides only a very rough approximation of the impact of immigration on the labour force growth by occupations during the last intercensus decade. As already noted before, the recorded occupations of migrants are intended rather than those that are actually taken up, and thus the use of immigration statistics to estimate the changes in occupations resulting from migration is a crude estimate; accordingly, although the intercensus decade covers a period beginning June 1, whereas the flow of immigrants are taken over a 10-year period of calendar years, no gain was seen in making elaborate adjustments to make the time periods coincide. Although it would appear that emigration is understated because only the movement to the United States is included, it must be kept in mind that these figures include Canadian-born residents. It is interesting to note that these estimates indicate that the estimated net immigration is almost 70 per cent, whereas (from Table A.4) available 1971 Census data indicate that approximately that proportion of immigrants of 1961-71 were residing in Canada at the time of the 1971 Census.

²¹ The concentration of immigrants among the craftsmen and production workers occupations and among professional occupations – and in the manufacturing and construction industries which was noted for the previous period – can also be seen from the labour force survey data for February 1967; see N. H. W. Davis and M. L. Gupta, *Labour Force Characteristics of Postwar Immigrants and Native-Born Canadians, 1956-67*, pp. 24-7.

²² M. Abrams and L. Epstein, "Immigration and Price Stability", pp. 22-34; R. Demers, "Immigration and Job Vacancies", and Department of Manpower and Immigration, Research Projects Group, "Immigration and the Labour Force" (Special studies prepared for the Task Force on Canadian Immigration and Population, December 1973).

²³ M. Abrams and L. Epstein, "Immigration and Price Stability", p. 23.

²⁴ *Ibid.*, p. 25.

²⁵ R. Demers, "Immigration and Job Vacancies", especially pt. 2.

²⁶ Department of Manpower and Immigration, "The First Year in a New Country (Immigrants of 1969)", p. 11. Moreover, the independent and nominated, those who had some knowledge of English or French, and those with professional and technical occupations tended to begin working sooner. For a brief résumé of the relevant results, see Department of Manpower and Immigration, "Immigration and the Labour Force", Section A.

²⁷ This is shown by the latest Census data summarized in Table A.17. And comparing Tables A.17 and A.16, it is seen that the proportion of immigrants in Ontario has slightly increased, and that in the Maritimes and the Prairies decreased; thus there is evidence of internal movements which conform to the observed general pattern of internal migration.

²⁸ L. Parai, *Immigration and Emigration of Professional and Skilled Manpower During the Postwar Period*, p. 79. For other estimates, see B. W. Wilkinson, *Studies in the Economics of Education*, Department of Labour Economics and Research Branch, Occasional Paper no. 4 (Ottawa: Queen's Printer, 1965), chap. 2; A. Scott and H. G. Grubel, "The International Movement of Human Capital: Canadian Economists", *Canadian Journal of Economics* 2: pp. 375-88; A. Scott, "The Brian Drain – Is a Human-Capital Approach Justified?", in *Education, Income and Human Capital*, ed. W. L. Hansen, pp. 262-7.

²⁹ B. W. Wilkinson, *Studies in the Economics of Education*, p. 73.

³⁰ *Ibid.*, p. 76.

³¹ See, for example, R. Mathews and J. Steele (eds.), *The Struggle for Canadian Universities* (Toronto: New Press, 1969).

³² See, for example, B. Celovsky, "Some Aspects of Postwar Immigration to Canada", unpublished manuscript, Ottawa, n.d., p. 4. For detailed data on changes in the supply and employment experience of professional workers, see A. G. Atkinson, K. J. Barnes and E. Richardson, *Canada's Highly Qualified Manpower Resources* (Ottawa: Department of Manpower and Immigration, 1970), and for earlier years, Department of Labour, *The Migration of Professional Workers Into and Out of Canada, 1946-1960*, Professional Manpower Bulletin no. 11 (Ottawa: Queen's Printer, 1961).

³³ Income data given by the Department of National Revenue, *Taxation Statistics* (annual) are usually cited to show how professional incomes have changed. The 1971 Census statistics will also provide data.

³⁴ H. C. Eastman, *The Economic Council's Third Annual Review – An Evaluation* (Montreal: Private Planning Association of Canada, 1966), p. 23.

³⁵ Department of Manpower and Immigration, "The First Year in a New Country (Immigrants of 1969)", pp. 79-81, and "Two Years in Canada (Immigrants of 1969)", pp. 79-81.

³⁶ B. Thomas, *Migration and Economic Growth: A Study of Great Britain and the Atlantic Community*.

³⁷ See, for example, J. H. Dales, *The Protective Tariff in Canada's Development* (Toronto: University of Toronto Press, 1966).

³⁸ See, for example, Office of the Minister of Manpower and Immigration, Press Release, "An Address by the Honourable Robert Andras, Minister of Manpower and Immigration, to the 80th Annual Meeting of the National Council of Women, New College, Toronto, Monday, June 11, 1973, delivered by Dr. Mark MacGuigan, M.P., Parliamentary Secretary", pp. 6-7.

³⁹ Much of this section is based on Soren T. Nielsen, "An Examination of Household Expenditure Patterns of Canadian Immigrants" (Department of Manpower and Immigration, 1973).

⁴⁰ Consequently, the following qualification needs to be kept in mind:

"However, a possible limitation to the differences found over time in expenditure patterns of immigrants should be noted. We have essentially assumed that the behaviour at a point in time by immigrants, who have arrived at various periods, can be taken to represent the behaviour of new immigrants as their length of stay increases and they get assimilated into the Canadian population. But this depends on whether or not immigrants who have arrived at different periods in time can indeed be taken to be homogeneous groups. . . . Thus we can be certain that earlier and especially pre-1945 immigrants were less endowed with skills than are recent immigrants. They also had less formal education and may be more likely to have come from a rural background, though now living in cities, than their contemporaries." (S. T. Nielsen, "An Examination of Household Expenditure Patterns of Canadian Immigrants", pp. 36-7.)

⁴¹ See, for example, T. A. Wilson and N. H. Lithwick, *The Sources of Economic Growth*, Studies of the Royal Commission on Taxation, no. 24 (Ottawa: Queen's Printer, 1968), chap. 5; and W. C. Hood and A. D. Scott, *Output, Labour and Capital in the Canadian Economy*, Study prepared for the Royal Commission on Canada's Economic Prospects (Ottawa: Queen's Printer, 1957), chap. 6.

⁴² See, for example, Y. Dubé, J. E. Howes, and D. L. McQueen, *Housing and Social Capital*, Study prepared for the Royal Commission on Canada's Economic Prospects (Ottawa: Queen's Printer, 1957), especially chap. 3; E. L. Bebee, "Regional Housing Markets and Population Flows in Canada: 1956-67", *Canadian Journal of Economics* 5:386-97; and L. B. Smith, *Housing and Mortgage Markets in Canada*, Bank of Canada Staff Research Study No. 6 (Ottawa: Bank of Canada, 1970); these discuss various aspects of the Canadian housing market.

⁴³ There is evidence, it may be noted, that some immigrants for a time reside in older housing in the core areas of large cities such as Toronto. (A. H. Richmond, *Ethnic Residential Segregation in Metropolitan Toronto* (Toronto: Ethnic Research Programme, Institute for Behaviour Research, York University, 1972), chap. 3, especially pp. 36-7.)

⁴⁴ Department of Manpower and Immigration, "Two Years in Canada (Immigrants of 1969)", pp. 99-112, and "The First Year in a New Country (Immigrants of 1969)", pp. 43-5.

⁴⁵ D. Walters, *Canadian Income Levels and Growth: An International Perspective*, Economic Council of Canada Staff Study no. 23 (Ottawa: Queen's Printer, 1968), pp. 71-2; chaps. 7 and 8 of this study give detailed discussion of investment during this period.

⁴⁶ For a more detailed analysis, see M. Abrams, "Impact of Immigration on the Balance of Payments" (Special Study prepared for the Task Force on Canadian Immigration and Population, December 1973).

⁴⁷ D. Walters, *Canadian Income Levels and Growth: An International Perspective*, chap. 11.

⁴⁸ *Ibid.*, p. 118.

⁴⁹ For an empirical example of the type of analysis involved, see the study of the effects of the changes in occupational composition on relative earnings by N. M. Meltz, *Changes in the Occupational Composition of the Labour Force*, Department of Labour, Economics and Research Branch, Occasional Paper no. 2 (Ottawa: Queen's Printer, 1965), chaps. 5-7.

⁵⁰ For more details of the data and information on which this section is based, see D. Walters, *Canadian Growth Revisited, 1950-67*, Economic Council of Canada Staff Study no. 28 (Ottawa: Queen's Printer, 1970), and her *Canadian Income Levels and Growth: An International Perspective*. For other studies of the earlier period, see N. H. Lithwick, *Economic Growth in Canada* (Toronto: University of Toronto Press, 1967); T. A. Wilson and N. H. Lithwick, *The Sources of Economic Growth*, and A. G. Green, *Regional Aspects of Canada's Economic Growth* (Toronto: University of Toronto Press, 1971).

⁵¹ D. Walters, *Canadian Growth Revisited, 1950-67*, pp. 30 and 40.

⁵² This includes Belgium, Denmark, France, Germany, The Netherlands, Norway, and the United Kingdom.

⁵³ T. A. Wilson and N. H. Lithwick, *The Sources of Economic Growth*, chap. 4, make essentially these points.

⁵⁴ For the assumption on which the components of the Canadian growth rates are estimated, see D. Walters, *Canadian Income Levels and Growth: An International Perspective*, chaps. 12 and 13. That the economies of scale are not likely large has been argued by J. H. Dales, *The Protective Tariff in Canada's Development*, chap. 8. Most empirical estimates of the production function assume constant returns to scale; see, for example, T. A. Wilson and N. H. Lithwick, *The Sources of Economic Growth*, App. A, p. 231; and Y. Kotowitz, "On the Estimation of a Non-Neutral CES Production Function", *Canadian Journal of Economics* 1:430.

⁵⁵ See, for example, A. D. Scott, "Transatlantic and North American International Migration", in *North American and Western European Economic Policies*, eds. C. P. Kindleberger and A. Shonfield (London: MacMillan and Co. Ltd., 1971), p. 445; and E. F. Denison, *The Sources of Economic Growth in the United States and the Alternatives Before Us*, pp. 177-8.

⁵⁶ For a lengthy discussion of the impact of immigration on price levels, see M. Abrams and L. Epstein, "Immigration and Price Stability"; this section is based on their study.

⁵⁷ See, for example, Department of Manpower and Immigration, "Two Years in Canada (Immigrants of 1969)", pp. 48-78, and "The First Year in a New Country (Immigrants of 1969)", pp. 46-58.

⁵⁸ For more detailed discussions of the impact of immigration on unemployment, see M. Abrams and L. Epstein, "Immigration and Price Stability"; R. Demers, "Immigration and Job Vacancies", and Department of Manpower and Immigration, "Immigration and the Labour Force".

⁵⁹ "The First Year in a New Country (Immigrants of 1969)", pp. 59-72, and "Two Years in Canada (Immigrants of 1969)", pp. 84-97, describe the unemployment characteristics of recent immigrants.

⁶⁰ N. H. W. Davis and M. L. Gupta, *Labour Force Characteristics of Postwar Immigrants and Native-Born Canadians, 1956-67*, p. 28, and "Two Years in Canada (Immigrants of 1969)", pp. 84-97.

⁶¹ See M. Frankena, "Immigration Policy and the Distribution of Income in Canada". (Special Study prepared for the Task Force on Canadian Immigration and Population, December 1973), upon which this section is based.

⁶² S. T. Nielsen, "Immigrants and the Mobility of the Indigenous Population". (Special Study prepared for the Task Force on Canadian Immigration and Population, December 1973.)

⁶³ See G. W. Davies, "The Role of Immigration in Candide Model I.0". (Special Study prepared for the Task Force on Canadian Immigration and Population, December 1973); this section is based on this study.

⁶⁴ W. L. Marr, *The Economic Impact of Canadian Inward and Outward Migration and Their Determinants, 1950-1967*, chaps. 4 and 5; G. W. Davies, *An Economic-Demographic Simulation Model Designed to Test the Effects of Changes in the Rate and Skill Composition of Net Immigration on the Canadian Economy from 1952 to 1968* (Ph.D. Diss., University of Michigan, 1972).

⁶⁵ These qualifications are also discussed in greater detail in "Immigration and the Labour Force", pp. 30ff. and "Immigration and Price Stability", pp. 14ff.

POSSIBLE PATTERNS OF FUTURE IMMIGRATION

The preceding chapters have analysed the possible economic effects of immigration; within this chapter, the broad patterns of future immigration are briefly considered.

Labour Force Projections¹

Although the fertility rate — that is, the number of children born to a woman during her lifetime — has declined in Canada during the past decade and currently is slightly less than 2.0, the Canadian population will continue to grow for some years because of the large proportion of women who are in the childbearing age groups; only in the next century would the population cease to grow from natural increase. Similarly, even if the decline in the fertility rate is assumed to continue to 1.8 (which is the lowest rate that currently exists in some European countries), population would continue to grow for some decades. Nevertheless, with such small rates of natural increase, the impact of future immigration on population growth could be relatively important.

The growth of the labour force depends on both population growth and changes in the participation rates — that is, the proportion of the population who are economically active. Increasing participation rates among women and slightly decreasing participation rates among men may be expected to continue so that on the whole a slightly higher proportion of the population can be expected to be in the labour force, and over the coming decades the growth of the labour force can be expected to be somewhat greater than population growth.

The likely future size of the Canadian labour force under alternative plausible assumptions is indicated in Table 6.1. For example, at one extreme the low fertility of 1.8 and no net immigration can be assumed; in such circumstances, the estimated labour force would be 32.6 per cent larger in 1986 as compared with 1971, and 46.4 per cent greater by 2001. In contrast, if about the same net immigration prevails as has occurred over the past decades — that is, between 105,000 and 183,000 yearly, or 0.5 per cent of the population — the projected labour force would be 53.2 and 99.6 per cent larger in the years 1986 and 2001 respectively. On the other hand, if the present fertility rates, together with a net immigration of 0.5 per cent of the population, are assumed, the projected labour force would be 53.2 and 106.7 per cent larger in 1986 and 2001 respectively. The estimated labour force in 1986, it may be noted, would be the same in both these situations since the larger natural increase in the latter case would not provide a larger number of people of working ages by that year. Quite clearly, the magnitude of net immigration would have a marked impact on the growth in the labour force. If the fertility rate indeed does fall to 1.8, for example, the labour force in 2001 would be over one-third larger with an annual net immigration of 0.5 per cent as compared with zero net immigration.

TABLE 6.1
ALTERNATIVE PROJECTIONS OF THE CANADIAN LABOUR FORCE IN 1986 AND 2001

Assumed annual rates of fertility ¹ and net immigration ²	Thousands						Per cent Increase over 1971					
	1986			2001			1986			2001		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Fertility : 1.8 net migration : 0	7,223	4,399	11,399	7,688	4,903	12,591	24.9	48.2	32.6	33.0	74.0	46.4
Fertility : 1.8 net migration : 0.2%	7,708	4,532	12,240	8,960	5,859	14,819	33.3	60.9	42.3	54.9	108.0	72.3
Fertility : 1.8 net migration : 0.5%	8,422	4,752	13,174	10,865	6,481	17,165	45.7	68.7	53.2	84.8	130.0	99.6
Fertility : 2.0 net migration : 0.2%	7,708	4,532	12,240	9,264	6,100	15,364	33.3	60.9	42.3	60.2	116.5	70.7
Fertility : 2.0 net migration : 0.5%	8,422	4,752	13,174	11,038	6,741	17,779	45.7	68.7	53.2	90.9	139.3	106.7
Fertility : 2.4 net migration : 0.8%	9,205	4,961	14,166	13,551	7,794	21,345	59.2	76.1	64.7	134.3	176.7	148.2

¹ Average births per woman during her lifetime.

² Annual net immigration as a per cent of the existing population.

Source: Department of Manpower and Immigration, Canadian Immigration and Population Study Group.

The appropriate magnitude of net immigration in the future thus depends on the size of the population and labour force that is desired. In terms of the possible favourable economic effects of such increased population and labour force, the preceding analysis has indicated that the contributions to economic growth provide the strongest justification for such net immigration; moreover, some gross immigration is likely desirable in that it serves as a means of relieving specific labour shortages.

At present it is not possible on strictly economic grounds to indicate precisely what the future patterns of immigration should be. On the one hand, assuming that economies of scale do exist, a choice must be made as to how much growth is desired, and in what ways such growth will be sought; on the other hand, choices must be made as to the extent to which the required types of workers should be provided domestically. Nevertheless, certain broad trends are likely to continue, and these may be noted.

The requirements of an advanced industrial economy, as has been stressed in the previous White Paper on Immigration,² are predominantly for skilled and highly trained workers who are capable of adjusting to the changing needs of the economy. Such needs are likely to continue³ and, therefore, immigrant workers will have to be appropriately qualified. But to the extent that such qualified workers are available domestically, less reliance will have to be placed on immigration as a source of highly qualified manpower. Thus, for example, concern has been expressed lately about the emerging excess supply of highly qualified manpower in Canada;⁴ immigration policy will have to be flexible to take such situations into account. What is needed, therefore, is detailed analysis of the future labour needs of the economy, and thereupon the appropriate policies formulated whereby these needs can be met from domestic and international sources. But such analysis is difficult. Future labour requirements presently cannot be precisely projected, there is frequently no close relationship between occupational supply and education, and the provision of educational and training services is a provincial responsibility so that such planning requires co-operation among the federal and provincial governments.⁵ Furthermore, to the extent that immigrants have tended to settle mainly in a relatively few large urban areas, the needs and wishes of municipal governments must also be recognized.

The above projections of the future size of the labour force incorporate assumptions about the magnitude of net immigration; the implied volume of gross immigration will depend on the extent of future emigration. Recent changes in the immigration regulations of the United States have diminished the flows from Canada into that country, and should these regulations continue, a given net immigration will likely be achieved with a smaller volume of gross immigration. In the past there has been a potential excess supply of migrants willing to come to Canada, but as continuing economic prosperity in Europe has improved conditions there and the elimination of racial discrimination in Canadian immigration regulations has permitted the entry of people from all parts of the world, there has been a marked shift in the source from which immigrants to Canada have come. This more recent pattern may be expected to continue, although it is possible that the former pattern may partly reappear if, for example, the energy crisis restricts

economic development in Europe and the less developed countries implement measures to retain their more highly trained and skilled workers.

As indicated earlier in this chapter, it is not possible to provide precise and definite indications of what the future pattern of immigration will — or should — be; instead, the interaction of various broad trends and the likely needs of the Canadian economy have been briefly considered. This will indicate, hopefully, some of the main economic considerations that must be taken into account when discussing and deciding upon the various alternative immigration policy options.

FOOTNOTES

¹ For more detailed analysis, see T. J. Samuel and L. Motuz, "Labour Force Projections to 2001" (Special study prepared for the Task Force on Canadian Immigration and Population, December 1973).

² *White Paper on Immigration*, especially pp. 9-10.

³ See, for example, D. F. Johnston, "Illustrative Projections of the Labour Force of the United States to 2040", in E. R. Morss and R. H. Reed, *Economic Aspects of Population Change*, pp. 159-87.

⁴ See, for example, Max von Zur-Muehlen, "The Ph.D. Dilemma in Canada: A Case Study", in Economic Council of Canada, *Canadian Higher Education in the Seventies* (Ottawa: Information Canada, 1972), pp. 75-132.

⁵ See, for example, D. Sewell, "Educational Planning Models and the Relationship Between Education and Occupation", in *Canadian Higher Education in the Seventies*, pp. 45-74, and Z. E. Zsigmond and C. J. Wenaas, *Enrollment in Educational Institutions by Province, 1951-52 to 1980-81*, Economic Council of Canada Staff Study no. 25 (Ottawa: Information Canada, 1970).

SUMMARY AND CONCLUSIONS

The main purpose of this study has been to analyse the economic effects of post-war international immigration into Canada. And to provide the analytical framework for this, the theoretical and empirical research on the economics of migration was surveyed and the major results were summarized.

The economic effects of immigration were found to be numerous and often complex. Some of the effects occur soon after the immigrants arrive, while others take considerable time to be realized; similarly, immigration affects some facets of the economy directly, and others indirectly through a sequence of relationships. It should not be surprising, therefore, that it is often difficult to indicate precisely what are the various economic effects of immigration, and even more difficult to measure them.

The analysis essentially consisted of ascertaining the likely impact which immigration had on aggregate supply and demand, and also the ramifications which followed from these changes in aggregate supply and demand. It seems that in many instances the impact of immigration has been small, and often could have been accomplished (or offset) by other available policy measures. The most likely major effects of immigration appear to be two: a larger, more flexible and adaptable labour force, and increased economic growth and higher per capita incomes.

The increased size of the labour force and the various characteristics of the immigrant workers can readily be noted. These migrant workers often comprise a sizeable proportion of certain occupations and industries; frequently these workers are in the rapidly expanding sectors of the economy, an indication that they have helped fill labour requirements and often reduced labour shortages. Immigrant workers can quickly provide needed skills and experience; similarly, of course, domestic manpower policies and educational and training facilities can increase the supplies of such manpower and thereby contribute to greater flexibility within the labour force.

Immigration can increase the size of the domestic market and thereby contribute to economic growth by enabling economies of scale to be realized; likewise immigrants can enhance technological knowledge, contribute entrepreneurial skills and be accompanied by larger investment in capital. But there is no consensus as to whether economies of scale exist to any significant extent in the Canadian economy; increased market size can be realized in traded goods by international trade; and the ways in which immigration can augment knowledge and other productive factors are not well understood. Moreover, immigrants tend to concentrate in certain areas and urban centres, thereby making sizeable demands on social capital and contributing to urban congestion and pollution problems; there are costs which to some extent offset the gains from growth and increased measured incomes.

Existing knowledge is inadequate to make a precise measurement of the net economic impact of the post-war immigration into Canada; likewise, no precise measure can be made of the impact of alternative future immigration flows. Certainly, aggregate models can give some estimates of the likely economic impact

— and as noted in the previous chapters, the available results indicate that these effects are relatively small — but these results are conditioned by the construct of the model. The importance of economies of scale — and of the contribution of domestic population to such economies — must be ascertained. A belief is often expressed that economies of scale exist and are important, but this has not been conclusively verified by empirical studies. Moreover, international trade is a means of attaining economies of scale; and in agricultural and mineral production, international markets have enabled large-scale production to be achieved in Canada. Manufacturing industries have traditionally been protected by tariffs and the domestic market may limit the extent of specialization and thereby the size of plants; nevertheless, even in these circumstances free trade presents an alternative option by which to attain larger markets. Non-traded goods and services, by definition, must rely on the local (or national) market; transportation, communications, and retail trade, for example, can benefit from larger population and increased levels of income. Thus large urban centres have contributed to economies of scale in retailing; and average costs of transportation and communications networks are lower when spread over a larger population. But again, further research is needed to ascertain the quantitative importance of these economies. Such additional knowledge should likewise enable an assessment of the future importance of these considerations.

Thus there still remains considerably uncertainty about the economic impact of immigration, and continuing research is needed to provide the information and understanding on which to formulate immigration policies. Moreover, it must be remembered that immigration has dimensions and effects that are non-economic; accordingly, these other considerations must also be kept in mind when considering alternative policy measures.

APPENDIX

TABLE A.1
IMMIGRATION TO CANADA, BY MAJOR COUNTRIES OF LAST PERMANENT RESIDENCE, 1946-72

Year	Total	United Kingdom and Ireland	Belgium, France, Italy, Germany, Netherlands	Portugal and Greece	Total Europe ¹	U.S.A.	West Indies	Australia and New Zealand	Asia ²	Africa and Middle East ³	South & Central America ⁴	Other
1946	71,719	50,934	3,924	49	90	56,124	11,474	394 ⁵	329	260	206	198
1947	64,127	35,957	4,532	78	644	49,680	9,444	352 ⁵	517	231	261	3,129
1948	125,414	43,724	12,045	3,204	686	111,520	7,393	389 ⁵	710	607	1,146	427
1949	95,217	21,707	11,795	7,728	696	83,405	7,756	404 ⁵	586	1,178	662	539
1950	73,912	13,147	13,339	8,993	831	61,061	7,821	447	553	2,042	1,319	539
1951	194,391	32,292	62,524	23,426	2,763	177,671	7,755	802	668	3,233	3,095	130
1952	164,498	46,202	55,027	20,651	1,578	144,106	9,333	851	957	3,116	4,287	207
1953	168,888	48,912	60,865	23,704	2,192	149,059	9,407	1,005	1,268	2,160	3,736	1,553
1954	154,227	45,440	50,510	23,780	3,365	134,642	10,131	932	1,709	2,119	2,053	1,305
1955	109,946	30,420	29,009	19,139	3,992	90,359	10,395	878	1,700	3,116	1,492	1,763
1956	164,857	52,619	40,742	27,939	6,683	145,151	9,777	1,127	1,924	2,754	2,265	93
1957	282,164	114,347	50,142	27,740	9,883	256,825	11,008	1,257	3,345	2,336	4,593	119
1958	124,851	26,003	25,811	27,043	7,128	101,605	10,846	1,292	2,344	3,352	2,900	148
1959	106,928	19,037	19,290	25,655	8,947	83,881	11,338	1,314	1,512	3,482	3,365	1,926
1960	104,111	20,384	20,429	20,681	9,879	82,238	11,247	1,276	1,657	2,161	3,358	135
1961	71,689	12,285	11,361	14,161	6,528	51,750	11,516	1,263	1,432	1,732	2,444	1,475
1962	74,386	16,055	10,483	13,641	6,669	53,288	11,643	1,586	1,384	1,690	3,576	86
1963	93,151	25,193	12,976	14,427	8,759	68,027	11,736	2,354	1,692	2,357	4,669	2,015
1964	112,605	29,959	13,552	19,297	9,700	81,332	12,565	2,199	2,303	4,828	6,633	2,509
1965	146,758	40,718	17,748	26,398	11,376	106,761	15,143	3,095	2,711	9,577	3,588	2,777
1966	194,743	65,065	22,629	31,625	15,104	147,349	17,514	3,935	4,057	11,198	7,359	2,989
1967	222,876	64,601	27,787	30,055	20,150	158,812	19,038	8,403	6,168	16,983	9,562	3,671
1968	183,974	39,434	21,495	19,774	15,477	19,750	20,422	7,563	4,815	17,901	9,941	3,233
1969	161,531	33,212	14,927	10,383	14,119	87,635	22,785	13,093	4,411	20,931	6,413	5,567
1970	147,713	27,620	11,179	8,533	14,229	75,065	24,424	12,456	4,385	18,813	5,764	5,845
1971	121,900	16,281	7,047	5,790	13,926	51,520	24,366	10,843	2,902	20,291	5,232	5,844
1972	122,006	19,133	6,685	4,608	12,753	50,373	22,618	8,234	2,148	20,813	11,740	5,285

¹ Includes United Kingdom and Ireland, Belgium, France, Germany, Netherlands, Portugal and Greece, Albania, Austria, Bulgaria, Czechoslovakia, Denmark, Estonia, Finland, Hungary, Iceland, Latvia, Lithuania, Luxembourg, Norway, Poland, Romania, Spain, Sweden, Switzerland, USSR, Yugoslavia, Europe nes.

² Ceylon, China, Hong Kong, India, Japan, Pakistan, Philippines, Taiwan, Thailand, Asia nes.

³ Algeria, Egypt, Iran, Israel, Lebanon, Malta, Morocco, Saudi Arabia, South Africa, Syria, Tunisia, Turkey, Africa nes.

⁴ Argentina, Bermuda, Brazil, Mexico, Central America, South America.

⁵ Excludes a total of 245 non-British West Indians over the individual years 1946-1949.

Source: Department of Manpower and Immigration, *Immigration Statistics* (various years)

TABLE A.2
COMPONENTS OF CANADIAN POPULATION GROWTH 1946-71
(Calendar Years – in thousands)

Year	Population January 1	Annual Population Increase	Births ¹	Deaths ¹	Natural Increase	Immigration	Estimated Emigration	Estimated Net Migration
1946	12,200	250	331.5	115.4	216.1	71.7	37.8	33.9
1947	12,450	260	359.9	118.2	241.8	64.1	45.9	18.2
1948	12,710	288	348.2	119.9	228.4	125.4	65.8	59.6
1949	12,998 ²	260	367.1	124.6	242.5	95.2	77.7	17.5
1950	13,607	263	372.0	124.2	247.8	73.9	58.7	15.2
1951	13,870	407	381.1	125.8	255.3	194.4	42.7	151.7
1952	14,277	405	403.6	126.4	277.2	164.5	36.7	127.8
1953	14,682	423	417.9	127.8	290.1	168.9	36.0	132.9
1954	15,105	430	436.2	124.9	311.3	154.2	35.5	118.7
1955	15,535	384	442.9	128.5	314.5	109.9	40.4	69.5
1956	15,919	433	450.7	132.0	318.8	164.9	50.7	114.2
1957	16,352	555	469.1	136.6	332.5	282.2	59.7	222.5
1958	16,907	411	470.1	135.2	334.9	124.9	48.8	76.1
1959	17,318	392	479.3	139.9	339.4	106.9	54.3	52.6
1960	17,710	382	478.6	139.7	338.9	104.1	61.0	43.1
1961	18,092	350	475.7	141.0	334.7	71.7	56.4	15.3
1962	18,442	345	469.7	143.7	326.0	74.6	55.6	19.0
1963	18,767	355	465.8	147.4	318.4	93.2	56.6	36.6
1964	19,142	359	452.9	145.8	307.0	112.6	60.6	52.0
1965	19,501	356	418.6	148.9	269.7	146.8	60.5	86.3
1966	19,857	371	387.7	149.9	237.8	194.7	61.5	133.2
1967	20,228	353	370.9	150.3	220.6	222.9	90.5	132.4
1968	20,581	307	364.3	153.2	211.1	184.0	88.1	95.9
1969	20,888	294	369.6	154.4	215.2	161.5	82.7	78.8
1970	21,182	283	372.0	156.0	216.0	147.7	80.7	67.0
1971	21,465	259	362.2	157.3	204.9	121.9	67.8	54.1
1972	21,724							
Total		9,175	10,717.7	3,566.9	7,150.9	3,536.8	1,512.7	2,024.1

¹ Includes Newfoundland from 1949 on.

² Excludes 349,000 because of the addition of Newfoundland to Confederation in 1949.

Source: Table A.1 and Statistics Canada, *Vital Statistics* (various years), "Estimated Population for Canada and Provinces by Quarterly Periods" (mimeo) and *Canadian Statistical Review* (various issues)

TABLE A.3
RECORDED EMIGRATION FROM CANADA TO THE UNITED KINGDOM AND THE
UNITED STATES 1946-71
(In Thousands)

Calendar Year	By boat only to the United Kingdom	Total to the United States
1946	9.1	21.3 ¹
1947	7.9	24.3 ¹
1948	7.2	25.5 ¹
1949	7.5	25.2 ¹
1950	7.0	23.3
1951	5.0	27.3
1952	7.5	37.9
1953	6.9	35.8
1954	9.4	32.9
1955	10.4	37.2
1956	7.9	44.1
1957	8.7	50.1
1958	11.9	35.7
1959	12.2	41.4
1960	11.2	48.7
1961	10.3	45.2
1962	7.4	47.6
1963	5.2	51.5
1964	9.2	50.0
1965	9.1	49.7
1966	8.9	28.8
1967	9.9	38.9
1968	12.2	34.6
1969	12.7	28.9
1970		23.6
1971		21.9

¹ For year ending June 30; Newfoundland included.

Source: United Kingdom Central Statistical Office, *Annual Abstract of Statistics* (various years). United States, Department of Justice, Immigration and Naturalization Service Special Tabulations Prepared for Statistics Canada.

TABLE A.4
 POPULATION OF CANADA, TOTAL AND BY PERIOD OF IMMIGRATION, CENSUS 1971
 (In Thousands)

	Number recorded in Census	Number of Immigrants admitted	Ratio of Immigrants remaining to Immigrants admitted
Total Population of Canada	21,568.3		
Immigrants who arrived:			
prior to 1946	953.6		
1946-55	789.0	1,222.3	64.6
1956-60	497.3	782.9	63.5
1961-65	347.0	498.8	69.6
1966-68	416.4	601.6	69.2
1969-71 ¹	292.2	357.2	81.8
Total: all immigrants	3,295.5		
all post-war immigrants	2,341.9	3,462.5	67.6

¹ For 1971, includes first five months of arrival only.

Source: Statistics Canada, *Advance Bulletin – Population by Period of Immigration*,
 Cat. No. 92-761 (AP-10), September, 1973

TABLE A.5
IMMIGRANTS TO CANADA, BY LABOUR FORCE STATUS, SEX, MAJOR AGE GROUPS, AND PARTICIPATION
RATES, 1947-72

Year	Immigrants intending to enter the Labour Force		All Immigrants by Sex and Major Age Group			Immigrant workers as per cent of all Immigrants		Participation Rates ¹		
			Males		Females	Total	15 years +	Total	15 years +	Males
	Males	Females	Total	15 years +	Males	Females	Total	15 years +	Males	Females
1947	27,144 ²	12,627 ²	33,435	28,273	30,692	25,785	62.0	62.0	96.0	49.0
1948	52,810	22,394	67,090	55,228	58,324	47,113	60.0	60.0	95.8	47.5
1949	38,799	14,135	51,162	40,948	44,055	34,460	55.6	55.6	94.8	41.0
1950	30,653 ²	9,470 ²	40,967	32,546	32,945	25,277	54.3	54.3	94.2	37.5
1951	95,270	18,116	120,166	99,466	74,225	55,451	58.3	58.3	95.8	32.7
1952	65,902	19,127	89,849	69,106	74,649	55,737	51.6	51.6	95.4	34.3
1953	68,823	22,310	91,422	71,521	77,446	59,026	54.0	54.0	96.2	37.8
1954	64,720	19,656	84,531	67,309	69,696	53,820	54.7	54.7	96.2	36.5
1955	42,611 ²	15,376 ²	56,828	44,494	53,118	41,826	52.7	52.7	95.8	36.8
1956	68,377	22,662	89,541	70,662	75,316	57,982	55.2	55.2	96.8	39.1
1957	115,332	36,179	154,226	119,889	127,938	95,889	53.7	53.7	96.2	37.7
1958	43,397	19,681	60,630	46,031	64,221	50,637	50.5	50.5	94.3	38.9
1959	36,505	17,046	51,476	38,945	55,452	43,777	50.1	50.1	93.7	38.9
1960	37,109	16,464	51,018	39,393	53,093	41,988	51.5	51.5	94.2	39.2
1961	21,828	12,981	32,106	23,962	39,583	32,002	48.6	48.6	91.1	40.6
1962	23,742	13,006	34,546	26,097	40,040	31,997	49.3	49.3	91.0	40.6
1963	31,528	14,338	45,163	34,445	47,988	37,658	49.2	49.2	91.5	38.1
1964	38,394	17,796	55,825	41,839	56,781	43,619	49.9	49.9	91.8	40.8
1965	51,415	22,780	74,707	55,730	72,051	54,203	50.6	50.6	92.3	42.0
1966	69,738	29,472	100,349	74,954	94,394	70,353	50.9	50.9	93.0	41.9
1967	82,680	36,859	115,158	88,557	107,718	82,618	53.6	53.6	93.4	44.6
1968	65,781	29,665	93,503	72,517	90,471	70,927	51.9	51.9	90.7	41.8
1969	55,238	29,111	80,007	61,928	81,524	64,537	52.2	52.2	89.2	45.1

TABLE A.5 (Continued)

Year	Immigrants intending to enter the Labour Force	All Immigrants by Sex and Major Age Group				Immigrant workers as percent of all Immigrants		Participation Rates ¹	
								Males	Females
		Males	Females	Total	15 years +	Total	15 years +	Males	Females
1970	51,923	25,800	74,257	58,207	73,456	58,296	52.6	89.2	44.2
1971	40,706	20,576	60,445	46,693	61,455	48,699	50.3	87.2	42.3
1972	39,894	19,537	60,070	46,014	61,936	48,373	48.7	86.7	40.4
TOTALS									
1947-50	149,406	58,626	213,137	156,995	217,252	132,635	58.0	95.2	44.2
1951-60	638,046	206,617	849,687	666,816	725,154	556,133	53.6	95.5	37.2
1961-66	236,645	110,373	342,696	257,027	350,837	269,832	50.0	92.1	40.7
1967-72	336,222	161,548	483,440	373,916	476,560	373,450	51.8	89.9	43.3
1947-72	1,360,319	537,164	1,888,960	1,454,754	1,769,803	1,332,050	52.9	93.5	40.3
Census 1961:									
All Canada	4,705,518	1,766,332	9,218,893	6,052,802	9,019,354	5,993,523	35.5	77.7	29.5
Canadian-Born	3,685,694	1,400,871	7,746,249	4,719,371	7,647,735	4,751,711	33.0	78.1	29.5

¹ Defined as Immigrants intending to enter the labour force ÷ population 15 years of age and over.

² Estimated.

Source: Department of Manpower and Immigration, *Immigration Statistics* (various years), Statistics Canada, *Canada Year Book* (various years) and Statistics Canada, *Census of Canada 1961*.

TABLE A.6
ESTIMATED COMPONENTS OF THE GROWTH OF THE CANADIAN LABOUR FORCE,
1951-1972
(In Thousands)

BOTH SEXES

Year	Labour Force		Estimation Procedure I		
	Total ¹	Annual Increase	Estimated Net Immigration ²	Estimated domestic change ³	Estimated Net Immigration as a Percentage of the Labour Force Increase
1950	5,195				
1951	5,275	80	88	- 8	110.0
1952	5,358	83	66	17	79.5
1953	5,441	83	72	11	86.7
1954	5,546	105	65	40	61.9
1955	5,689	143	37	106	25.9
1956	5,888	199	63	136	31.7
1957	6,099	211	120	91	56.9
1958	6,182	83	38	45	45.8
1959	6,318	136	26	110	19.1
1960	6,486	168	22	146	13.1
1961	6,559	73	8	65	11.0
1962	6,655	96	9	87	9.4
1963	6,854	199	18	181	9.0
1964	7,028	174	26	148	14.9
1965	7,268	240	43	197	17.9
1966	7,566	298	68	230	22.8
1967	7,795	229	71	158	31.0
1968	8,081	286	49	237	17.1
1969	8,245	164	41	123	25.0
1970	8,498	253	35	218	13.8
1971	8,766	268	27	241	10.1
1972	9,086	320	26	294	8.1
Total Changes					
1951-55		494	328	166	66.4
1956-60		797	269	528	33.8
1961-65		782	104	678	13.3
1966-70		1,230	264	966	21.5
1951-70		3,303	965	2,338	29.2
1951-71		3,571	992	2,579	27.8

TABLE A.6 (Continued)
BOTH SEXES

Year	Estimation Procedure II			Percentage Distribution of the Labour Force Increase		
	Natural Increase ⁴	Increase in Participation Rate ⁵	Estimated Net Immigration ⁶	Natural Increase	Participation Rate Increase	Net Immigration
1950						
1951	-9	-2	91	-11.3	-2.5	113.6
1952	46	-24	61	55.4	-28.9	73.5
1953	51	-27	59	61.4	-32.5	71.1
1954	52	-4	57	49.5	-3.8	54.3
1955	70	36	37	49.0	25.2	25.6
1956	75	57	67	37.7	28.6	33.7
1957	59	28	124	28.0	13.3	58.7
1958	68	-2	17	81.9	-2.4	20.5
1959	80	29	27	58.8	21.3	19.9
1960	89	37	42	53.0	22.0	25.0
1961	91	2	-20	124.7	2.7	-27.4
1962	97	4	-5	101.0	4.2	-5.2
1963	108	31	60	54.3	15.6	30.1
1964	125	47	2	71.8	27.0	1.2
1965	136	68	36	56.7	28.3	15.0
1966	140	65	93	47.0	21.8	31.2
1967	165	20	44	72.1	8.7	19.2
1968	171	9	106	59.8	3.1	37.1
1969	174	10	-20	106.1	6.1	-12.2
1970	177	24	52	70.0	9.5	20.5
1971	174	53	41	64.9	19.8	15.3
1972						
Total Changes						
1951-55	210	-21	305	42.5	-4.3	61.8
1956-60	371	149	277	46.5	18.7	34.8
1961-65	557	152	73	71.2	19.4	9.4
1966-70	827	128	275	67.2	10.4	22.4
1951-70	1,965	408	930	59.5	12.4	28.1
1951-71	2,139	461	971	59.9	12.9	27.2

TABLE A.6 (Continued)

MALES

Year	Labour Force		Estimation Procedure I		
	Total ¹	Annual Increase	Estimated Net Immigration ²	Estimated domestic change ³	Estimated Net Immigration as a Percentage of the Labour Force Increase
1950	4,064				
1951	4,112	48	74	-26	154.2
1952	4,174	62	51	11	82.3
1953	4,226	52	54	-2	103.8
1954	4,303	77	50	27	64.9
1955	4,383	80	27	53	33.7
1956	4,501	118	47	71	39.8
1957	4,629	128	91	37	70.1
1958	4,657	28	26	2	92.9
1959	4,720	63	18	45	28.6
1960	4,775	55	15	40	27.3
1961	4,797	22	5	17	22.7
1962	4,841	44	6	38	13.6
1963	4,915	74	12	62	16.2
1964	5,010	95	18	77	18.9
1965	5,127	117	30	87	25.6
1966	5,263	136	48	88	35.3
1967	5,383	120	49	71	40.8
1968	5,520	137	34	103	24.8
1969	5,605	85	27	58	31.8
1970	5,748	143	24	119	16.8
1971	5,873	125	18	107	14.4
1972	6,025	152	17	135	11.2
Total Changes					
1951-55		319	256	63	80.3
1956-60		392	197	195	50.3
1961-65		352	71	281	20.2
1966-70		621	182	439	29.3
1951-70		1,684	706	978	41.9
1951-71		1,809	724	1,085	40.0

TABLE A.6 (Continued)

MALES

Year	Estimation Procedure II			Percentage Distribution of the Labour Force Increase		
	Natural Increase ⁴	Increase in Participation Rate ⁵	Estimated Net Immigration ⁶	Natural Increase	Participation Rate Increase	Net Immigration
1950						
1951	-13	-19	80	-27.1	-39.6	166.7
1952	36	-25	51	58.1	-40.3	82.2
1953	43	-30	39	82.7	-57.7	75.0
1954	40	-19	56	51.9	-24.7	72.8
1955	57	2	21	71.3	2.5	26.2
1956	58	6	54	49.2	5.1	45.7
1957	42	-10	96	32.8	-7.8	75.0
1958	49	-28	7	175.0	-100.0	25.0
1959	56	-18	25	88.9	-28.6	39.7
1960	62	-23	16	112.7	-41.8	29.1
1961	59	-35	-2	268.2	-159.1	-9.1
1962	61	-22	5	138.6	-50.0	11.4
1963	70	-11	15	94.6	-14.9	20.3
1964	84	-7	18	88.4	-7.4	19.0
1965	93	-4	28	79.5	-3.4	23.9
1966	92	-11	55	67.6	-8.1	40.5
1967	110	-28	38	91.7	-23.3	31.6
1968	116	-37	58	84.7	-27.0	42.3
1969	117	-28	-4	137.6	-32.9	-4.7
1970	120	-20	43	83.9	-14.0	30.1
1971	115	-8	18	92.1	-6.4	14.3
1972						
Total Changes						
1951-55	163	-91	247	51.1	-28.5	77.6
1956-60	267	-73	198	68.1	-18.6	50.5
1961-65	367	-79	64	104.3	-22.4	18.1
1966-70	555	-124	190	89.4	-20.0	30.6
1951-70	1,352	-367	699	80.3	-21.8	41.5
1951-71	1,467	-375	717	81.1	-20.7	39.6

TABLE A.6 (Continued)

FEMALES

Year	Labour Force		Estimation Procedure I		
	Total ¹	Annual Increase	Estimated Net Immigration ²	Estimated domestic change ³	Estimated Net Immigration as a Percentage of the Labour Force Increase
1950	1,131				
1951	1,163	32	14	18	43.7
1952	1,184	21	15	6	71.4
1953	1,215	31	18	13	58.1
1954	1,243	28	15	13	53.6
1955	1,307	64	10	54	15.6
1956	1,388	81	16	65	19.8
1957	1,470	82	29	53	35.4
1958	1,525	55	12	43	21.8
1959	1,598	73	8	65	11.0
1960	1,711	113	7	106	6.2
1961	1,762	51	3	48	5.9
1962	1,814	52	3	49	5.8
1963	1,939	125	6	119	4.8
1964	2,018	79	8	71	10.1
1965	2,141	123	13	110	10.6
1966	2,303	162	20	142	12.3
1967	2,412	109	22	87	20.1
1968	2,561	149	15	134	10.1
1969	2,640	79	14	65	17.7
1970	2,750	110	11	99	10.0
1971	2,893	143	9	134	6.3
1972	3,061	168	9	159	5.4
Total Changes					
1951-55		176	72	104	40.9
1956-60		404	72	332	17.8
1961-65		430	33	397	7.7
1966-70		609	82	527	13.5
1951-70		1,619	259	1,360	16.0
1951-71		1,762	268	1,494	15.2

TABLE A.6 (Continued)

FEMALES

Year	Estimation Procedure II			Percentage Distribution of the Labour Force Increase		
	Natural Increase ⁴	Increase in Participation Rate ⁵	Estimated Net Immigration ⁶	Natural Increase	Participation Rate Increase	Net Immigration
1950						
1951	4	17	11	12.5	53.1	34.4
1952	10	1	10	47.6	4.8	47.6
1953	8	3	20	25.8	9.7	64.5
1954	12	15	1	42.9	53.6	3.5
1955	13	34	17	20.3	53.1	26.6
1956	17	51	13	21.0	63.0	16.0
1957	17	38	27	20.7	46.3	33.0
1958	19	26	10	34.5	47.3	18.2
1959	24	47	2	32.9	64.4	2.7
1960	27	60	26	23.9	53.1	23.0
1961	32	37	-18	62.7	72.5	-35.2
1962	36	26	-10	69.2	50.0	-19.2
1963	38	42	45	30.4	33.6	36.0
1964	41	54	-16	51.9	68.4	-20.3
1965	43	72	8	35.0	58.5	6.5
1966	48	76	38	29.6	46.9	23.5
1967	55	48	6	50.5	44.0	5.5
1968	55	46	48	36.9	30.9	32.2
1969	57	38	-16	72.2	48.1	-20.3
1970	58	44	8	52.7	40.0	7.3
1971	59	61	23	41.3	42.7	16.0
1972						
Total Changes						
1951-55	47	70	59	26.7	39.8	33.5
1956-60	104	222	78	25.7	55.0	19.3
1961-65	190	231	9	44.2	53.7	2.1
1966-70	273	252	84	44.8	41.4	13.8
1951-70	614	775	230	37.9	47.3	14.2
1951-71	673	836	253	38.2	47.4	14.4

See notes next page.

- ¹ Twelve month average, with average centered at year end.
- ² It is assumed that each year immigrants to Canada and emigrants from Canada have identical overall participation rates. Accordingly, estimated annual net immigration of workers in any particular year is derived by reducing the recorded annual immigration of workers by that year's ratio of estimated annual immigration to recorded total immigration, these ratios being derived from the data given in Table A.2.
- ³ Derived as a residual between the labour force increase and estimated net immigration.
- ⁴ Assuming that each year the age distribution of immigrants to Canada is the same as that of emigrants from Canada, estimated changes in the working population age groups resulting from net immigration are derived by the method described in note 2 above; the differences between the estimated changes in working population age groups and these estimated increases from net immigration are taken to be the estimated changes by age groups in population that result from natural increase. These natural increases in population are multiplied by the appropriate age-specific average participation rates of the year to provide the estimated increase in the labour force from natural growth.
- ⁵ The preceding year's populations of working ages are multiplied by the estimated changes in age-specific participation rates to provide the estimates of labour force increase from changes in the participation rates.
- ⁶ Derived as a residual; this is equal to the estimated increase in the labour force minus both the estimated change from natural increase and the estimated change from participation rates.

Source: Labour Force data supplied by the Department of Manpower and Immigration, and was computed from the monthly *Labour Force Survey* data on CANSIM. Immigration data as found in Tables A.1 and A.2.

TABLE A.7
IMMIGRANT WORKERS TO CANADA, BY LEVELS OF SKILL OF INTENDED OCCUPATION,¹ 1946-72

Year	All Immigrant Workers	Professional and Technical Workers	Skilled Workers			All Skilled Workers	Semi-Skilled Workers	Unskilled Workers	Occupation Not Given
			Managers	Primary Industries	Trades and Service				
1951	113,386	4,200	866	3,643	28,426	32,935	72,321	53,561	3,930
1952	85,029	7,203	938	1,239	20,729	22,905	20,448	39,804	1,359
1953	91,133	8,585	1,436	902	18,952	21,290	19,546	33,916	966
1954	84,376	8,350	1,633	677	19,676	21,986	14,138	22,561	578
1955	57,987	7,159	1,404	418	11,936	13,758	12,561	371	
1956	91,039	9,343	996	1,265	22,021	24,282	25,727	31,252	435
1957	151,511	16,040	1,216	2,051	39,326	42,593	47,767	44,450	661
1958	63,078	7,553	944	471	13,726	15,141	16,074	23,881	429
1959	53,551	6,947	837	359	10,446	11,642	12,648	21,920	394
1960	53,573	7,436	825	559	10,841	12,225	13,672	19,947	293
1961	34,809	6,696	896	226	6,919	8,041	8,725	11,288	59
1962	36,748	8,218	1,093	353	8,161	9,607	9,811	9,060	52
1963	45,866	9,640	1,159	647	11,138	12,944	13,493	9,723	66
1964	56,190	11,965	1,212	883	12,842	14,937	16,371	12,656	261
1965	74,195	16,654	1,728	839	18,368	20,935	21,010	15,210	386
1966	99,210	23,637	2,292	1,282	26,048	29,622	28,609	16,575	863
1967	119,539	30,853	3,023	1,221	29,769	34,013	34,700	18,347	1,626
1968	95,446	29,250	2,385	583	22,620	25,588	28,685	11,831	92
1969	84,349	26,883	2,566	479	17,824	20,869	24,516	10,947	1,134
1970	77,723	22,412	3,095	342	17,277	20,714	22,817	9,564	2,216
1971	61,282	16,307	3,464	271	12,060	15,795	18,789	8,376	2,015
TOTALS									
1946-50	222,407	9,512	3,754	7,603	35,586	46,943	145,389		19,963
1951-56	522,950	44,840	7,273	8,144	121,740	137,156	79,859 ²	127,533 ²	7,639
1957-60	321,713	37,976	3,440	3,822	74,339	81,601	90,161	110,198	1,777
1961-66	347,018	76,810	8,380	4,230	83,476	96,059	98,019	74,512	1,687
1967-71	438,339	125,705	14,533	2,896	99,550	116,959	129,507	59,065	7,083
1951-71	1,630,020	285,322	34,008	28,710	379,105	431,775	397,546 ²	371,308 ²	18,186

TABLE A.7 (Continued)

As a Percentage of all Immigrant Workers

Year	Professional and Technical Workers	Managers	Primary Industries	Trades and Service	All Skilled	Semi-Skilled Workers	Unskilled Workers	Occupation Not given
1951	3.7	0.8	3.2	26.1	29.0	63.8	3.5	1.6
1952	8.5	1.1	1.5	24.4	26.9	63.0	43.7	1.1
1953	9.4	1.6	1.0	20.8	23.4	22.5	40.2	0.7
1954	9.9	1.9	0.8	23.3	26.1	23.2	38.9	0.6
1955	12.3	2.4	0.7	20.6	23.7	24.4	34.3	0.5
1956	10.3	1.1	1.4	24.2	26.7	31.5	29.3	0.4
1957	10.6	0.8	1.4	26.0	28.1	25.5	37.9	0.7
1958	12.0	1.5	0.8	21.8	24.0	23.6	40.9	0.7
1959	13.0	1.6	0.7	19.5	21.7	25.5	37.2	0.5
1960	13.9	1.5	1.0	20.2	22.8	25.1	32.4	0.2
1961	19.2	2.6	0.7	19.9	23.0	26.1	24.7	0.1
1962	22.4	3.0	1.0	22.2	24.3	28.2	21.2	0.1
1963	21.0	2.5	1.4	24.3	28.2	29.4	22.5	0.5
1964	21.3	2.2	1.6	22.9	26.6	29.1	20.5	0.5
1965	22.5	2.3	1.1	24.8	28.2	28.8	16.7	0.9
1966	23.8	2.3	1.3	26.3	29.9	29.0	15.4	1.4
1967	25.8	2.5	1.0	24.9	28.5	30.1	12.4	0.1
1968	30.7	2.5	0.6	23.7	26.8	24.7	13.0	1.3
1969	31.9	3.0	0.6	21.1	24.7	29.1	12.3	2.9
1970	28.8	4.0	0.4	22.2	26.6	29.4	13.7	3.3
1971	26.6	5.7	0.4	19.7	25.8	30.7		
TOTALS								
1946-50	4.3	1.7	3.4	16.0	21.1	65.4	9.0	
1951-56	8.6	1.4	1.6	23.3	26.8	24.6 ²	39.3 ²	1.5
1957-60	11.8	1.2	1.1	23.1	28.5	25.4	34.3	0.6
1961-66	22.1	2.4	1.2	24.1	27.7	28.3	21.5	0.5
1967-71	28.7	3.3	.7	22.7	26.7	29.5	13.5	1.6
1951-71	15.8	2.1	1.8	23.3	26.5	27.8 ²	25.9 ²	1.1

¹ For definitions of skills and detailed data for 1946-50 see L. Parai, *Immigration and Emigration of Professional and Skilled Manpower During the Post-War Period*, pp. 102-107, 182-85 and Table A.8. Figures for 1962-63 originally contained a slight tabulation error and have been corrected in the above table.

² Including only the years 1953 and after.

Source: Detailed data provided by the Department of Manpower and Immigration.

TABLE A.8
PERCENTAGE DISTRIBUTION OF IMMIGRANTS TO CANADA, 1969, ACTUAL ARRIVALS BY INTENDED
OCCUPATIONAL GROUPS AND SAMPLE OF THESE IMMIGRANTS IN OCCUPATIONAL
GROUPS AFTER BEING IN CANADA FOR ONE YEAR

Occupations	Actual Immigration					Sample			
	Independent	Nominated	Sponsored	Other ¹	Total	Independent	Nominated	Sponsored	Other ¹
Number	86,816	33,548	39,084	2,083	161,531	1,165	144	57	3,542
All immigrants	54,578	6,584	21,924	1,263	84,349	2,176			
Workers									
Per cent Distribution									
Managerial	3.9	1.2	2.1	1.7	3.0	5.8	1.4	2.1	0.0
Professional and technical	42.7	7.6	23.3	34.0	31.9	41.9	6.2	11.1	17.5
Clerical	13.6	15.9	18.2	8.0	14.5	11.1	10.2	11.8	8.8
Transportation and communications	0.7	1.8	2.1	2.1	1.1				
Commercial and financial	4.2	3.4	3.8	1.5	3.9	2.7	3.2	1.4	0.0
Service	9.9	12.6	11.6	8.9	10.7	7.5	16.0	13.2	3.5
Agricultural	2.2	3.9	3.3	1.5	2.7	1.2	1.0	1.4	0.0
Fishing, trapping, and logging	0.2	0.1	0.1	0.4	0.2	0.0	1.9	1.4	0.0
Mining	0.5	0.3	0.2	1.7	0.5	2.0	1.9	1.4	0.0
Manufacturing, mechanical and construction	21.5	43.2	26.6	36.5	27.8	20.6	31.7	27.0	47.4
Labourers	0.4	6.3	5.7	3.6	2.4	2.2	13.5	16.0	25.0
Not Stated	0.2	3.7	3.0	0.1	1.3	5.0 ²	14.9 ²	14.6 ²	8.8 ²
Unemployed									
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Includes Refugees.

² Includes both unemployed and not stated.

Source: Actual Immigration from the Department of Manpower and Immigration, *Monthly Immigration Statistical Report* and special tabulations. Sample data from from "The First Year in a New Country (Immigrants of 1969)" p. 31.

TABLE A.9
SPONSORED AND UNSPONSORED IMMIGRANTS TO CANADA, 1951-72

Year	Total	Workers	Workers as Percentage of Total	Sponsored			Unsponsored			Percentage Distribution of all Immigrants
				Total	Workers	Workers as Percentage of Total	Total	Workers	Workers as Percentage of Total	
1951	69,203			125,188			35.6			64.4
1952	53,133			111,365			32.3			67.7
1953	61,637			107,231			36.5			63.5
1954	53,363			100,864			34.6			65.4
1955	45,409			64,537			41.3			58.7
1956	52,978			111,879			32.1			67.9
1957	61,752			220,412			21.9			78.1
1958	60,114			64,737			48.1			51.9
1959	58,954			47,974			55.1			44.9
1960	49,256			54,855			47.3			52.7
1961	34,337	12,661	36.9	37,352	22,148	60.3	47.9	27,742	52.1	52.1
1962	33,738	11,254	33.4	40,848	25,494	62.4	45.2	25,494	54.8	54.8
1963	39,375	12,059	30.6	53,776	33,807	62.9	42.3	33,807	57.7	57.7
1964	46,572	16,423	35.3	66,034	39,762	60.2	41.4	39,762	58.6	58.6
1965	57,073	20,063	35.2	89,685	54,132	60.4	38.9	54,132	61.1	61.1
1966	66,562	23,055	34.6	128,181	76,155	59.4	34.2	76,155	65.8	65.8
1967	74,427	26,222	35.2	148,449	93,317	62.9	33.4	93,317	66.6	66.6
1968	73,347	25,061	34.2	110,627	70,385	63.6	39.9	70,385	60.1	60.1
1969	72,632	28,508	39.2	88,899	55,841	62.8	45.0	55.841	55.0	55.0
1970	67,414	26,233	38.9	80,299	51,490	64.1	45.6	51,490	54.4	54.4
1971	62,778	24,352	38.8	59,122	36,930	62.5	51.5	36,930	48.5	48.5
1972	64,036	25,326	39.5	57,970	34,106	58.8	52.5	34,106	47.5	47.5
TOTALS										
1951-60	565,799			1,009,042			35.9			64.1
1961-66	277,657	95,515	34.4	415,876	251,503	60.5	40.0	251,503	60.0	60.0
1967-71	350,598	130,376	37.2	487,396	307,963	63.2	41.8	307,963	58.2	58.2

¹ Includes Sponsored and Nominated after 1967.

Source: Data provided by the Department of Manpower and Immigration.

TABLE A. 10
SELECTED CHARACTERISTICS OF VISITORS IN CANADA GRANTED LANDED IMMIGRANTS STATUS,
1969-71

Occupational Group	Number				Percent Distribution				Total
	Independent	Nominated	Sponsored	Other ¹	Total	Independent	Nominated	Sponsored	
Managers	171	4	12	3	187	6.2	1.3	4.9	5.6
Professional and technical	1,186	21	61	3	1,271	43.0	6.8	24.8	38.3
Clerical and financial	454	56	26	1	537	16.5	18.0	10.6	16.2
Service	192	44	32	2	270	7.0	14.1	13.0	33.3
Farming	55	35	10		100	2.0	11.3	4.1	8.1
Manufacturing and construction	559	136	88		783	20.3	43.7	35.8	3.0
Labourers	11	6	8		25	.4	1.9	3.2	23.6
Not stated	127	9	9		145	4.6	2.9	3.6	.8
TOTAL	2,755	311	246	6	3,318	100.0	100.0	100.0	100.0

¹ Includes refugees

Source: Special tabulations provided by the Department of Manpower and Immigration.

TABLE A.11
 CANADIAN LABOUR FORCE JUNE 1961, BY MAJOR OCCUPATIONAL GROUPS,
 TOTAL AND POST-WAR IMMIGRANTS
 (In Thousands)

Occupation Group and Sex	Total	1946-61 Immigrants	1946-61 Immigrants as a Percentage of Total
MALES			
Professional and technical	357	56	16.1
Skilled workers	1,670	190	11.4
Semi-skilled workers	1,551	175	11.3
Unskilled workers	1,005	134	13.3
Not stated	123	13	10.8
Labour force	4,706	569	12.1
FEMALES			
Professional and technical	272	23	8.3
Skilled workers	106	17	16.7
Semi-skilled workers	848	123	14.4
Unskilled workers	497	67	13.5
Not stated	43	5	11.4
Labour force	1,766	235	13.3
BOTH SEXES			
Professional and technical	629	80	12.7
Skilled workers	1,775	206	11.6
Semi-skilled workers	2,399	298	12.4
Unskilled workers	1,503	201	13.4
Not stated	166	18	10.9
Labour force	6,471	804	12.4

Source: *Census of Canada, 1961*, as summarized in L. Parai, *Immigration and Emigration of Professional and Skilled Manpower During the Post-War Period*, p. 223.

TABLE A.12
POST-WAR IMMIGRANTS IN 1961 CENSUS AND THEIR CONTRIBUTION TO NET CHANGES
DURING THE INTERCENSUS DECADE 1951-61, BY SELECTED OCCUPATIONS

Occupations	Number of 1946-61 Immigrants at 1961 Census (In hundreds)	1946-61 Immigrants as Percentage of the Total at 1961 Census	Net Change in Post- War Immigrants as Percentage of the Total Change in 1951-61
PROFESSIONAL & TECHNICAL			
Engineers: Civil	30	25.3	59.9
Chemical	6	20.6	105.4
Electrical	22	25.1	73.8
Mechanical	27	32.9	73.7
Professors and college principals	18	16.0	25.6
School teachers	79	4.7	10.4
Physicians and surgeons	41	19.2	48.0
Dentists	3	4.9	26.5
Graduate nurses	80	13.0	26.1
Lawyers and notaries	4	3.0	11.0
Architects	10	34.5	70.9
SKILLED WORKERS			
Plumbers and pipe fitters	48	12.7	48.9
Sheet metal workers	29	17.1	70.7
Bricklayers, stonemasons, tile setters, cement and concrete finishers	123	45.4	119.0
Carpenters	100	16.5	214.9
Plasterers and lathers	31	31.1	307.9
Painters, paper hangers, glaziers	58	22.4	226.0
Aircraft mechanics and repairmen	16	23.0	43.8
Motor vehicles mechanics and repairmen	121	13.6	39.8
Toolmakers and diemakers	38	36.0	265.9
Barbers, hairdressers, manicurists	88	20.9	45.9
ALL OCCUPATIONS	8,039	12.4	52.6

Source: As cited in Table A.11, using tables 21-24.

TABLE A.13
 FOREIGN-BORN POST-WAR IMMIGRANTS IN THE CANADIAN LABOUR FORCE, BY
 MAJOR INDUSTRY, 1961 CENSUS

Industry	Number of 1946-61 Immigrants (In hundreds)	1946-61 Immigrants as a Percentage of the Labour Force
Agriculture	364	5.7
Forestry	53	4.8
Fishing and trapping	5	1.3
Mines, quarries, oil wells	164	13.5
Manufacturing industries	2,451	17.4
Construction industry	854	19.8
Transportation, communications and other utilities	460	7.6
Trade	1,075	10.8
Finance, insurance and real estate	290	12.7
Community, business and personal service industries	1,807	14.3
Public administration and defence	342	7.1
Unspecified industries	176	11.1
All industries	8,039	12.4

Source: As cited in Table A.11, from p. 60.

TABLE A.14
ESTIMATED COMPONENTS OF THE GROWTH IN THE EMPLOYED LABOUR FORCE, BY
MAJOR OCCUPATIONAL GROUPS, DURING THE DECADE 1961-71

Occupational Groups	Employed Labour Force			Recorded Flows During the Years 1961-70 ³			Estimated Domestic Change	Estimated Net Immigration as Percentage of Decade Change
	1971 ¹	1961 ²	Decade Change	Immigrants to Canada	Emigrants from Canada to the USA			
Managers	810	553	+ 257	19	11	8	+ 249	3.1
Professional and technical	1,172	646	+ 526	186	62	124	+ 402	23.6
Clerical	1,249	856	+ 393	100	36	64	+ 329	16.3
Sales	588	422	+ 166	25	10	15	+ 151	9.0
Service and recreational	1,041	817	+ 224	78	22	56	+ 168	25.0
Transportation and communications	452	403	+ 49	10	6	4	+ 45	8.2
Farmers and farm workers	541	666	- 125	25	2	23	- 148	- 18.4
Logging, fishing, trapping and hunting	69	117	- 48	1	3	- 2	- 46	4.2
Mining and quarrying	60	67	- 7	3	1	2	-	- 28.6
Craftsmen, production process workers	2,095	1,602	+ 493	223	51	172	+ 321	34.9
Labourers	407	323	+ 84	46	12	34	+ 50	40.5
All workers	8,374	6,472	1,902	724 ⁴	221 ⁴	503 ⁴	+1,399	26.4

¹ Calendar year average; employment data adjusted to estimate labour force.

² Census data; "not stated" occupations apportioned throughout all occupations.

³ Calendar Years.

⁴ Includes "not stated".

TABLE A.15
UNEMPLOYMENT RATES BY MAJOR OCCUPATIONAL GROUPS, ANNUAL AVERAGES FOR CANADA, 1961-1972

Year	All Occupations	Office and Professional ¹	Transportation	Service and Recreation	Primary ²	Craftsmen, Production Process and Related Workers	Labourers and Unskilled Workers (not in primary industries)
1961	7.1	2.5	10.2	5.6	6.8	9.2	21.7
1962	5.9	2.0	7.9	4.9	6.1	7.2	19.3
1963	5.5	2.0	7.8	4.7	5.6	6.7	17.2
1964	4.7	1.8	6.0	4.2	4.5	5.5	15.1
1965	3.9	1.4	5.1	3.5	4.0	4.5	13.4
1966	3.6	1.3	4.5	3.1	3.9	4.3	11.8
1967	4.1	1.6	5.5	3.4	3.7	5.3	12.5
1968	4.8	1.9	5.8	4.2	4.7	6.1	14.8
1969	4.7	1.9	5.9	4.3	4.7	5.8	13.1
1970	5.9	2.6	7.6	4.5	5.5	7.7	16.3
1971	6.4	2.9	7.4	5.7	5.8	8.0	16.7
1972	6.3	3.1	7.2	6.1	5.9	7.6	16.7

¹ Includes managerial, professional and technical, clerical, sales, and communication occupations.

² Includes farmers and farm workers, fishermen, trappers and hunters, loggers and related workers, miners, quarrymen and related workers.

Source: Statistics Canada, *The Labour Force*, June, 1973 (cat. no. 71-001), p. 63.

TABLE A.16
IMMIGRANT WORKERS TO CANADA FOR SELECTED TIME PERIODS, BY PROVINCE OF DESTINATION 1946-71

Total	Total and Percentage Distribution							North West Territories
	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	Atlantic ¹	
1946-50	222,407	20,213	15,538	8,159	12,172	113,671	42,604	9,908
	100	9.09	6.99	3.67	5.47	51.11	19.16	4.45
1951-60	844,663 ²	79,070	57,677	16,555	37,281	437,543	195,051	18,310
	100	9.36	6.83	1.96	4.41	51.80	23.09	2.17
1961-66	347,018	38,908	17,990	5,582	9,689	182,114	84,450	7,935
	100	11.21	5.18	1.61	2.79	52.48	24.34	2.29
1967-71	438,339	55,156	28,859	6,372	18,890	233,128	85,655	9,773
	100	12.58	6.58	1.45	4.31	51.18	19.54	2.23
1946-71	1,852,427	193,396	120,064	36,968	78,032	966,456	407,760	45,914
	100	10.44	6.48	2.00	4.21	52.17	22.01	2.48

¹ Includes Nova Scotia, New Brunswick, Prince Edward Island and, since 1949, Newfoundland.² There were 2,670 not stated in 1956.

Source: Department of Manpower and Immigration, *Immigration Statistics* (various years)

TABLE A.17
POPULATION BY PROVINCES, 1971 CENSUS, SHOWING TOTAL AND IMMIGRANT POPULATIONS

Province	Total Population	All Immigrants	Post-War Immigrants	All Immigrants as a Percentage of Total Provincial Population	Post-War Immigrants in Province as a Percentage of all Post-War Immigrants
Newfoundland	522,104	8,940	7,530	1.7	0.3
Prince Edward Island	111,641	3,705	2,370	3.3	0.1
Nova Scotia	788,960	37,190	24,405	4.7	1.0
New Brunswick	634,557	23,730	14,145	3.7	0.6
Quebec	6,027,764	468,925	371,550	7.8	15.9
Ontario	7,703,106	1,707,395	1,326,235	22.2	56.6
Manitoba	988,247	151,250	81,835	15.3	3.5
Saskatchewan	926,242	110,690	32,740	12.0	1.4
Alberta	1,627,874	282,260	164,830	17.3	7.1
British Columbia	2,184,621	496,660	312,415	22.7	13.3
N.W.T.	34,807	2,245	1,890	6.4	0.1
Yukon	18,388	2,545	2,005	13.8	0.1
Canada	21,568,311	3,295,530	2,341,945	15.3	100.0

Source: Statistics Canada, *Advance Bulletin - Population 1971 - Census of Canada*.

TABLE A.18
TOTAL AND REGIONAL UNEMPLOYMENT RATES: ANNUAL AVERAGES, 1946-72

Year	Atlantic	Quebec	Ontario	Prairies	British Columbia	Canada
1946	7.7	4.3	2.8	2.4	4.2	3.8
1947	6.5	2.7	1.8	1.8	3.1	2.6
1948	6.2	2.5	1.7	1.7	3.5	2.6
1949	6.9	3.6	2.3	2.2	3.9	3.3
1950	8.4	4.6	2.5	2.2	4.4	3.8
1951	4.7	3.2	1.8	1.8	3.7	2.6
1952	4.6	3.9	2.2	1.9	4.1	3.0
1953	5.5	3.8	2.1	1.9	4.0	3.0
1954	6.6	5.9	3.8	2.5	5.2	4.6
1955	6.5	6.2	3.2	3.1	3.8	4.4
1956	6.0	5.0	2.4	2.2	2.8	3.4
1957	8.4	6.0	3.4	2.6	5.0	4.6
1958	12.5	8.8	5.4	4.1	8.6	7.0
1959	10.9	7.9	4.5	3.2	6.5	6.0
1960	10.7	9.1	5.4	4.2	8.5	7.0
1961	11.2	9.2	5.5	4.6	8.5	7.1
1962	10.7	7.5	4.3	3.9	6.6	5.9
1963	9.5	7.5	3.8	3.7	6.4	5.5
1964	7.8	6.4	3.2	3.1	5.3	4.7
1965	7.4	5.4	2.5	2.5	4.2	3.9
1966	6.4	4.7	2.5	2.1	4.5	3.6
1967	6.7	5.3	3.2	2.4	5.2	4.1
1968	7.4	6.6	3.6	2.9	5.9	4.8
1969	7.5	6.9	3.2	2.9	5.0	4.7
1970	7.6	7.9	4.3	4.4	7.6	5.9
1971	8.6	8.2	5.2	4.5	7.0	6.4
1972	9.0	8.3	4.8	4.5	7.6	6.3

Source: Statistics Canada, *Canadian Statistical Review*, October 1973, p. 47, and S. Ostry and M.A. Zaidi, *Labour Economics in Canada*, Macmillan of Canada, Toronto, 1972, p. 128.

TABLE A.19
NET MIGRATION OF SELECTED PROFESSIONAL WORKERS, AND DEGREES GRANTED,
1960-71
(In Thousands)

Engineers				
	Immigration	Emigration	Net Immigration	Degrees
1960	725	881	-156	2,171
1961	547	811	-264	2,412
1962	967	880	87	2,437
1963	1,198	834	364	2,246
1964	1,476	821	655	2,422
1965	2,254	923	1,331	2,256
1966	3,210	998	2,212	2,317
1967	3,704	1,315	2,389	2,420
1968	2,814	1,058	1,756	2,678
1969	2,739	1,010	1,729	2,961
1970	2,186	677	1,509	3,550
1971	1,687	415	1,272	3,898

TABLE A.19 (Continued)

Physicians/Surgeons				
	Immigration	Emigration	Net Immigration	Degrees
1960	441	262	179	879
1961	445	296	149	842
1962	530	357	173	846
1963	687	472	215	826
1964	668	405	263	773
1965	792	390	402	1,034
1966	995	473	522	881
1967	1,213	360	853	940
1968	1,277	225	1,052	1,002
1969	1,347	267	1,080	1,019
1970	1,113	307	806	1,105
1971	987	492	495	1,364

TABLE A.19 (Continued)

Professors and College Principals

	Immigration	Emigration	Net Immigration	Ph.D. Degrees
1960	350 ¹	65	285	281
1961	370 ¹	102	-268	306
1962	390	90	-300	321
1963	539	139	-400	421
1964	672	128	-544	481
1965	1,084	147	937	572
1966	1,410	187	1,223	696
1967	1,986	183	1,803	780
1968	2,280	160	2,120	1,006
1969	2,398	161	2,237	1,108
1970	1,886	133	1,753	1,375
1971	1,358	160	1,198	1,625

¹ Estimated; published data includes teachers.

Source: Immigration data from Department of Manpower and Immigration, *Immigration Statistics* (various years); emigration data from United States Department of Justice, Immigration and Naturalization Service, special tabulation prepared for Statistics Canada; Z.E. Zsigmond and C.J. Wenaas, *Enrolment in Educational Institutions by Provinces 1951-52 to 1980-81*. Economic Council of Canada Special Study No. 25, Queen's Printer, Ottawa, 1970, Table B, and Statistics Canada, *Degrees, Diplomas, Certificates Awarded by Degree Granting Institutions*.

TABLE A.20
FUNDS TRANSFERRED OR BROUGHT BY ARRIVING IMMIGRANTS TO CANADA,
1964-72
(Millions of dollars)

Funds brought by Immigrants by Country of last permanent residence

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972
U.K. & Ireland	24	34	56	58	52	54	42	29	49
Belgium, France, Germany, Netherlands	8	12	15	23	17	16	16	14	20
Italy	3	5	4	6	4	6	6	6	5
Portugal & Greece	1	2	3	9	7	6	10	11	8
Total Europe	39	57	83	105	89	88	81	65	91
U.S.A.	42	50	60	63	90	110	115	136	127
West Indies	2	3	4	9	7	14	20	25	
Australia and New Zealand	3	4	5	10	9	11	10	7	
Asia	3	12	11	35	52	40	40	58	
Africa and Middle East	7	6	10	16	32	14	20	24	
South and Central America	6	7	6	6	7	9	15	26	
Other	—	1	1	1	1	2	3	4	
Total	102	140	181	246	288	288	304	344	361 ¹

¹ Complete breakdown by countries not available

Source: Special tabulation prepared by the Department of Manpower and Immigration.

TABLE A.21
LONG TERM CAPITAL INFLOWS,¹ AND TRANSFERS OF INHERITANCES AND MIGRANTS' FUNDS,
CANADA 1951-71
(Millions of dollars)

Year	Direct Investment			Portfolio Transactions			Government Transactions			Other			Total Long-Term Capital			Inheritances and Migrants' Funds		
	Into Canada	Made Abroad															Net	
1951	320	-30		280			68			28			666			77	-70	7
1952	360	-85		128			56			-4			455			85	-94	-9
1953	450	-70		157			87			25			649			91	-96	-5
1954	425	-90		167			72			25			599			89	-99	-10
1955	445	-85		-52			69			37			414			86	-116	-30
1956	650	-105		721			65			159			1,490			99	-131	-32
1957	545	-80		764			49			42			1,320			124	-157	-33
1958	430	-40		619			30			114			1,153			97	-159	-62
1959	570	-85		619			33			42			1,179			109	-165	-56
1960	670	-50		217			21			71			929			102	-184	-82
1961	560	-80		312			30			108			930			104	-176	-72
1962	505	-105		294			107			-113			688			124	-175	-51
1963	280	-135		471			7			14			637			151	-185	-34
1964	270	-95		645			54			-54			820			169	-201	-32
1965	535	-125		546			28			-120			364			216	-211	5
1966	790	-5		325			21			36			1,167			268	-198	70
1967	691	-125		473			40			276			1,355			329	-213	116
1968	590	-225		1,063			15			209			1,652			370	-209	161
1969	720	-370		1,806			-35			212			2,333			366	-204	162
1970 ²	835	-295		565			-77			-286			742			389	-199	190
1971 ²	885	-305		311			-132			-365			394			432	-185	247
Totals																		
1951-60	4,865	-720		3,620			550			539			8,854			959	-1,271	-312
1961-66	2,940	-545		2,593			247			-129			5,106			1,032	-1,146	-114
1967-71	3,721	-1,320		4,218			-189			46			6,476			1,886	-1,010	876
1951-71	11,526	-2,585		10,431			608			456			20,436			3,877	3,427	450

¹ Minus sign indicates outflow.

² Preliminary

Sources: 1951-64 *The Canadian Balance of International Payments. A Compendium of Statistics from 1946-1965*. (Cat. 67-505) Table 1.1 pp. 18-19.

1965-68 *The Canadian Balance of International Payments, 1965-70*. (Cat. 67-201) Table 2 p. 53.

1969-71 *The Canadian Balance of International Payments, 1966-71*. (Cat. 67-201) Table 2 p. 39.

TABLE A.22
CONTRIBUTION OF FACTOR INPUTS AND OUTPUT PER UNIT OF INPUT TO GROWTH OF NET NATIONAL
INCOME PER PERSON EMPLOYED, CANADA, 1950-67

	Contribution to growth rates (In percentage points)			Percentage shares		
	1950-55	1955-62	1962-67	1950-55	1955-62	1962-67
Net National Income	3.4	2.3	2.6	35	14	15
Factor Inputs	1.2	.3	.4	—	3	4
Labour	—	—	.1	—	—	8
Hours worked	—	.3	—	.2	—	—
Age-sex composition	—	—	.2	—	—	7
Education	.3	.2	.5	.9	11	19
Capital	1.3	.5	.4	36	21	14
Housing	.4	.1	.1	10	3	5
Foreign investments	.1	—	.1	2	—	3
Non-residential structures and equipment	.7	.5	.3	21	22	10
Inventories	.1	—	—	3	—	2
Land	—	.1	—	—	—	3
Output per Unit of Input	2.2	2.0	2.0	65	86	85
Improved allocation of resources	.9	.4	.4	25	18	15
Decline in agricultural inputs	.3	—	.1	8	1	4
Decline in nonagricultural self-employment	—	—	—	—	—	—
Economies of scale	.5	.5	.6	16	22	24
Growth in national market	.1	.1	.1	2	3	2
Growth in local markets	—	—	.1	1	—	3
Income elasticities in consumption	—	.2	.3	—	—	—
Statistical adjustments*	—	—	—	—	—	—
Variations in pressure of demand*	.1	—	—	—	—	—
Variations in agricultural output*	.5	.9	1.0	15	42	38
Residual sources of growth	—	—	—	—	—	—
Net National Income	3.5	2.2	2.6	100	100	100
Factor inputs	1.2	.3	.4	—	—	—
Output per unit of input	2.3	1.9	2.2	—	—	—

¹ Excludes the effect of starred (*) items — statistical adjustments, variations in pressure of demand, and variations in agricultural output.

Note: Detail may not add due to rounding.
Source: Pp. 31-2, as cited in Table 5.3.

TABLE A.23
POPULATION OF SELECTED CITIES, 1971 CENSUS, SHOWING TOTAL AND
IMMIGRANT POPULATIONS

City	Total population	All Immigrants	Post-War Immigrants	Post-War Immigrants as a Percentage of Population
Toronto City	712,786	310,595	259,700	36.4
Area ¹	2,628,043	893,315	741,755	28.2
Hamilton City	309,173	93,375	69,205	22.4
Area ¹	498,523	132,940	99,970	20.1
Montreal City	1,214,352	228,400	189,135	15.6
Area ¹	2,743,208	405,680	330,335	12.0

¹ Census metropolitan area.

² Source: as cited in Table A.17

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